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EDITORIAL.

In the first article, a graduate of Yale of more than ten years standing criticizes his alma mater as it was in his undergraduate days with great frankness. We presume he would claim to love her not less, but rather more, than those whose enthusiasm finds its chief vent in whooping forth the college yell. There is no doubt but that many and perhaps all of the older American colleges, though of course in quite different degree, need such faithful wounds of a friend. It is hoped they will have the philosophy to welcome this. Other such articles by representative graduates of other colleges concerning their own college, as they remember it, will follow.

Very interesting to specialists in the psychology of religion ought surely to be the spontaneous and untechnical opinions and sentiments of such an expert in laboratory and historical psychology as Professor Sanford.

The sphere of pedagogy is ever widening. The training of nurses has now gained sufficient prominence to merit a place in every complete survey of educational institutions. Important experience has already been acquired and lessons of great value to students of education can be gleaned in this field. A brief survey of it is given by an experienced lady physician, who is Superintendent of Nurses in a city hospital.

Professor Chamberlain follows with interesting and recent digests of the literature of child study, a field which he commands with his remarkably wide range of erudition.

Although much has been written on the history and methods of Jewish education, there is at present no brief and conspective survey of the subject such as Mr. Ellis has here attempted with copious literature appended.

The Editor has brought together and inserted four of his recent addresses, three of which are devoted to present high school problems. One of these has already been printed elsewhere.

How the restless nature of the girl, and especially the boy, chafes against the sedentary and restrained life of the school is shown in a way which will have profound significance for all who are interested in the larger problems of education, in the plain history of a school day, jotted down without comment or moral by a competent hand.

The usual reviews and book notes follow.

A YALE EDUCATION VERSUS CULTURE.

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Now that the Bi-Centennial Anniversary of the founding of Yale University has been celebrated with characteristic Yale spirit it may be profitable to sit down in the calm hour, to make an inventory of one's best head and heart life, and to try to estimate fairly how much of this life of culture a Yale graduate of some fifteen years standing owes to his Yale education.

As a measure of his intellectual life let us take the cosmic law of evolution, the greatest intellectual product of the last half century,—by the light of which every man of culture is accustomed to look at our most important social, political, educational, ethical, religious, and even literary problems. As to the wealth of biological evidence for this law scarcely any Yale student fifteen years ago ever heard of it: for only an occasional eccentric student dared to go out of the traditions of the college and take the little elective botany and zoölogy which had crept into the curriculum from the Sheffield Scientific School. And yet, by a strange anomaly, Yale sheltered in its Peabody Museum a wealth of evolutional material which was known and honored throughout the scientific world; witness Huxley's eagerness to study it on his visit to America, and his immediate use of it in his New York and London lectures.[1] Yet not only was no instruction offered concerning this material, but we were never encouraged to visit it unofficially.

In geology we did get some perspective of evolution time and some observation knowledge of the cosmic forces in our Saturday afternoon geological tramps with a modest and marvellously energetic aged professor. But the only memory of his class room hours with us is a special series of lectures on the Harmony of Genesis and Geology, to which the theological students were summoned along with us seniors. Such a mere verbal and fantastic harmony as our peace-making and charitable professor was possibly able to make between a legend and a science was hailed by us Christians, as well as by the

[1] Life and Letters of Thomas H. Huxley, by his son. New York, 1900. Vol. I, pp. 495-497.

theologues of course, as a triumph of religion over science. This belittling of scientific knowledge as against religious revelation was at least the impression left upon us students, though we were never even then sure of just what were the geologist's really own beliefs.

The only other teacher from whom we ever heard anything of evolution introduced it in connection with sociology as a graduate study. And it is an interesting criterion of the college's ignorance and fear of evolution that, although he was the most admired and stimulating of the whole faculty, we students shared in a blind imitation way the suspicion of the college authorities which compelled him for some years to cease using Spencer's sociology.

Thus we graduated not merely in ignorance of the great wealth of wonderful evidence—in itself an education—for evolution, but with an indifference or narrow suspicion of it which has prevented most of us from getting any subsequent evolutional knowledge. For if a reading census could be taken there is not the least doubt but that it would show that Yale men have read less than the average college men from the great culture storehouses in the lives and works of Darwin, Huxley, and Spencer, and their host of followers.

If another intellectual criterion be taken in the first-hand knowledge of any science or any cultivation of the scientific method and spirit, what of these did Yale give us? In the statistics of our class book "astronomy easily leads as the most unpopular study," its instructor was voted the hardest man to recite to, and he was the most generous in his distribution of conditions. Physics and chemistry, the only other required sciences in our course, were also rated very low, and the reason is seen in the method and spirit in which all these sciences were taught. In chemistry, *e. g.*, we had to learn the chemical formulas by heart like so many Chinese characters, before we had ever seen, touched, smelled, or tasted any chemical substance. This learning we struggled with every known device of promptings and cribs to give out again in recitations throughout the whole book. Having been thus refined by discipline, we were shown at the close of the term a few experiments at the dark end of a long low room, and by a voice mumbling almost inaudibly through its massive beard. Thus only the few conscientious classmates on the front benches got anything from these absolutely undemonstrative demonstrations, while the rest of the class sought the rear benches as they rose up to the ceiling, and there enjoyed the natural relief from our chemical catechism by yielding to the foul and hot air as we stretched out on the dark benches and slept.

We were put through physics in at least a more scientific

building; and, although the instructor was more animated and even bright, his keenness seemed to find its highest function in catching us in verbal contradictions to ourselves or to the text-book. Thus in none of these sciences was any apparent effort made to reveal the real stuffs, forces, and laws of nature to us and therewith to arouse a wonder and admiration of nature which should enlarge our petty intellectual Ptolemaic horizon to the modern gigantic Copernican scale. None of the applications of this scientific knowledge to the progress of civilization were put before us. The sextant, the eclipse expeditions, the analysis of foods and water, the process of photography, the construction of the telephone, camera, and microscope, we knew nothing about and, worst of all, cared nothing about as a result of our study of the sciences. It never occurred to us that the telegraph line, which we made, as a vent for some of our natural energy, to connect several of our college rooms together, had any connection with our catechism in physics. But very little of the mere rote knowledge, which we had been forced to learn from one text-book by the recitation method, ever survived the final examination as a permanent part of ourselves.

The mathematics, which were rather the father of the Freshman and Sophomore years trinity of studies, were also never taught in their proper place as the handmaid to civilization in getting at the culture knowledge of physics, astronomy, navigation, mechanics, engineering, and psychology; but were made unadulterated discipline in self-denial. But instead of being of any supposed disciplinary value for sound reasoning, the overwhelming preponderance of deduction and the cultivation of apodeictic dogmatism in mathematics make it a vicious training for our real inductive process and cautious balancing of probabilities in the actual knowledge of life.

Thus, as we got no scientific knowledge worthy of the name, we also got nothing of the scientific method and spirit which is of even more value in modern culture. For we never saw nor heard of any of our instructors doing any original work. If they did so, they could not have given us a higher blessing than the inspiration of seeing a teacher making advances in his science and learning somewhat of his methods of work and his modest contributions to human knowledge. For we had no idea how the material in our text-books had been laboriously gathered through centuries of individual work—we probably considered it as the result of contemplation and inspiration,—and they seemed to us dogmatic and finished treatises, just as we bought and sold the same text-books which had been passed down for years from class to class through the mediation of the second-hand book store. Conse-

quently we had no idea of the sifting of evidence, the patience and labor necessary thereto, no example or practice in the use of the inductive methods of disentangling this knotty world into its causal relationships and laws, and no cultivation of the critical spirit and caution which is so decidedly essential to any man's taking a place in this complicated civilization. Our student attitude may be gauged by the fact that the one pre-eminent contributor in the college to human knowledge was regarded by us as an eccentric creature who must be mentally unbalanced to so absorbingly devote himself and his private fortune to the collection and study of bones that he had not time to conduct recitations.

If, however, we make all fair extenuations for this farce of scientific instruction by the fact that it was fifteen years ago, how was it with our longer established heritage of English literature? The required rhetoric of freshman year was a standing joke among us with its laughable truisms, its repulsive artificiality, with the gaseous verbosity of Macaulay held up to us as the model of writing and speaking, and with our composition exercises for cultivating a literary style by forcing ourselves to write on subjects in which we had no knowledge or feeling. And the contrast of the ease of this English subject as against the grinding discipline in Latin and Greek tended to give us a contempt for anything in our own language. So that naturally the required learning in junior year of an excellent little book on the English language and a Primer of English Literature was considered the greatest snap in college. The professor, who we discovered long afterwards had much geniality, was evidently so bored by us and the ordeal he conducted that he showed no more interest or enthusiasm in his subject or in us than a nickle-in-the-slot machine. Thus we were never stimulated to read at first hand by buying and living with our own copies of Hawthorne, Dickens, Emerson, and Tennyson, nor even to make use of the college library. Though most of us strayed into the library, and roamed about some among thes helves, we very seldom found any of our instructors there as a good example to us; and though a very few students did an amount and kind of reading which was an education in itself, yet this was done in spite of the disciplinary pressure of the curriculum, which was purposely designed to monopolize us to the limit of our time and strength. An example of the conflict of this forcing system with the eternal attraction of good books is a memory of my reading that lovely idyl of Silas Marner on a Saturday afternoon,—I can still even smell the dusty odor of our North College radiator supporting my feet and see the bright spring day outside from whose freedom and tennis attractions I had voluntarily immured myself,—and yet,

along with a heart overflowing with the best emotions from that wonderful story, I had a guilty conscience at reading so weak and suspicious a thing as a novel at all, and at the risk I was running of having to get my Monday morning's Tacitus and trigonometry on Sunday night.

With such a deadening and morbid environment in our required literary courses it was most natural that the few electives in the last two years were chosen by the great mass of us because of their being the easiest things to get through. The resultant stage of our literary culture can be seen in our class statistics at graduation, where, amid the scattering returns, the favorites were most all authors whom we had not even made a pretence of studying in college.[1]

As for any knowledge of French or German literature, that was almost impossible under the system. For we could only begin a modern language in junior year, and thus there was not time to get beyond the grammar and reader. And it was a fact, too, that most of our instructors had not gotten much beyond this reader stage. That we followed here too the line of least resistance is shown in the fact that three times as many of us chose French with a weakling nondescript of an instructor than with the head professor who had some individuality and culture, but who made us work harder. Of course, here in college as elsewhere, an occasional fellow dug away by himself until he could read Buchheim's Deutsche Lyrik or Wilhelm Meister with some ease and pleasure, but the college did not introduce him to such delightful companionship.

When one now turns in his library or study to his beloved copy of Jowett's Plato and the poetical translation of Æschylus, Sophocles, and Euripides his heart swells in special indig-

[1] In the '85 Class Book, Yale College, 122 graduating members, "David Copperfield is the book best liked. Next to that, and in order of popularity are: Last Days of Pompeii, Shakespeare, Ivanhoe, Reveries of a Bachelor, Bride of Lammermoor, Irving's Sketch Book, Westward Ho, Pickwick Papers, Henry Esmond, Mill on the Floss, Lucile, Bread Winners, Kenelm Chillingly, Yale Record, Ben Hur, Monte Cristo, Schwegler's History of Philosophy, Lorna Doone, John Todd's Young Man, Les Misérables, and 'my bank book.' The favorite author is Thackeray, who claims 15; Dickens, 14; Scott, 13; Irving, 6; Macaulay, 4; Bulwer, Howells, and Kingsley, 2 each; Wilkie Collins, Freshman editor of the Record, Emerson, W. G. Sumner, Virgil, Hawthorne, Mark Twain, Verne, Ebers, Reade, 'Prex.,' Aldrich, Smiles, and Parton, 1 each. Of authoresses George Eliot has 30; 'Ouida,' 3; Mrs. Burnett, Mrs. Stowe, Mrs. Alexander, and Miss Mulock, 2 each; with a scattering vote for Katherine Green, 'Pansy,' Mother Goose, Miss Bird, Charlotte Bronte, Mrs. Woolson, and the 'Duchess.'

"We like Longfellow best of the poets. Then Shakespeare, Tennyson, Byron, Whittier, Burns, Scott, 'fighting editor of the Record,' *alias* Cushing, Harte, Shelly, Case, Thos. Moore, Goldsmith, Joy, and Dante."

nation at our college study of the classics, which was the foundation of the whole curriculum. For, after being drilled for two to four years in a puerile grind of preparatory school Latin and Greek, we often came to even more mechanical instructors and emotionless discipline in the first two years in college. Very few of us ever acquired enough ease in the use of these languages to get at the thought and beauty in the comparatively few literary things like the Alcestis, Xenophon's Memorabilia, the Odes and Satires of Horace, which we did translate at, while much of the material on which we practiced grammatical dissection and pigeon-hole classification had only an historical, biographical or anthropological value, like Livy, Sallust, Cicero's Letters, Herodotus and Homer. This latter group it was perfect folly for us to labor through in the original languages, which not merely added no appreciable value to the historical and anthropological worth, but even sadly prevented our getting at this real worth and preserving it beyond our crammed examination memory. And in the former group of the world's permanent literary classics the added æsthetic value which is really given by the original languages is not worth, to the overwhelming mass of cultivated readers, the years of labor which are necessary to add this increment of value, undoubted though it is, to the fundamental and main worth.

Where the study of Latin and Greek was thus concentrated on the words and their grammatical relations, we were quite unprepared to profit by the experiment of one professor of Greek as he tried to rapidly translate some Plato to us that we might really know something of Socrates. Thus, too, we were fostered into a false and morbid attitude in regard to the use of translations. About five-sixths of our class confessed to having "used a horse in translating Latin and Greek, including all but four of the philosophical and high oration men."[1] We were in the pernicious inner conflict of feeling more or less qualms of conscience, mingled with exultation, at thus secretly counteracting some of the disciplinary intent of our instructors, who, on their side, were pefectly aware of this almost universal practice and lengthened out the lessons proportionately. The ethical conflict into which one was occasionally brought is illustrated in my still vivid memory of trying to revolt morally against this practice. While we were reading Xenophon's Memorabilia perhaps some glimpse of the real Socrates nerved me to stop using a translation. But even with all the vigor

[1] Some of the reasons given were: because hard pressed for time, save grind, got tired of dead languages, was born tired, hygienic reasons, by advice of parents, dislike of subject, lessons too long, as a necessity, to make up back work, any one not using one is at a disadvantage with those who do. See *ibid.*, p. 65.

added by a moral struggle I could not possibly get through all the lessons; so that, having been called up several times unluckily on the end of the lesson to which I had been unable to get, I was warned for low stand. Though the professor was kindly disposed on learning of the virtuous effort I was making, he could give me so little encouragement that I bolted from his presence to the second-hand book store across the street, bought a Bohn steed that had done generations of furtive trotting, and renounced classic virtue forever. How much this parody on classical culture could have been avoided by encouraging the use of literary instead of cheap literal translations, by the instructor's translating the lesson ahead so that we would get the main ideas and emotions first of all, and then by our individual work fill in the details and nuances added by the original language! Thus we would have been stimulated to know Jowett, of whom we actually never heard, would have gotten over many more of the dramas while yet in college, and after the original languages had quickly faded from memory, would have been likely to extend our acquaintance and continue the friendship for these beautiful Greeks and an occasional noble Roman through the language of their English disciples.

When the sturdy little fighter for sound thinking, Kant, and his patron "Saint David" Hume, together with their more persuasive forerunner Locke and hard-hitter Hobbes, look down in high companionship from their pictures as well as from their immortal works, when the inspired grumbler and exposer of shams, Schopenhauer, makes us after all his charmed debtors in meliorism, when the patriot Fichte rings through his wordy idealism, and even Hegel is delightfully suggestive in his imaginative distortions of the human mind and history, when the lovableness and modern intellectual breadth of the saintly Spinoza grow more precious with years, when the old Pre-Socratic Greeks are a fascinating study in the crude undifferentiation of poetry and science, when the last and noblest Roman of them all, John Stuart Mill, is perhaps our ideal of a philosopher's head and a woman's heart—when one looks back from some decades of such gratitude to these great men and asks how much of this noble companionship we owe to our college courses in philosophy, what is the result? Why, the result is nil! The whole college point of view was wrong, for we were put through these philosophers impersonally, or classified into "schools," as the discoverers of patent systems of knowledge or solutions of the universe in general, instead of treating them as men living through their literary works. For, since child study and psychology have confirmed more scientifically some of the older prophetic philosophers in the humble

dependence of our knowledge on our senses and its patient building-up through accumulated memories and the sifted-out associations of inductive reasoning, so the old pretensions of a copyrighted metaphysical system of the universe have been humorously dissipated. And thus, beyond the value of philosophy courses as chapters in the history of psychology, the main permanent worth of the great philosophers is in their literary mixture of Wahrheit und Dichtung, in the scattered observations and truths of the human mind and heart as they are seen in unusual poetical analogies and felt with the intellectual enthusiasm of strong men. But in our boiled-down textbooks of the philosophers at second hand, supplemented by the suppressions and distortions due to the petty caliber of our instructors, this literary and living humanity had effervesced, and we were stuffed with the dry bones of dates, attenuated verbal abstractions, and dictated distinctions which were as indigestible for us as an ostrich diet. As we never saw our instructors getting the lives, letters, and writings of the philosophers at first hand so of course we got no encouragement to really live with them.

Likewise with the more specially moral philosophers. When a college graduate of a couple of years standing found his heart overflowing with enthusiasm for the exalted and strengthening thoughts of Marcus Aurelius and the discourses of the slave, Epictetus, and then searched his college memory and notebooks in vain for any knowledge that these men ever existed, is it any wonder that he feels a righteous indignation at such an imposition on culture? Even in the form of Farrar's Seekers after God these stoic saints were evidently not considered safe. As for such modern inspiration still as is stored in Bishop Butler's lovable sermons, and in Shaftesbury's clarifying Inquiry concerning Virtue, of these we also knew nothing. Our required course in ethics, with its childish truisms, its endless charging, countercharging and recountercharging of mere verbal abstractions, with the occasional and ridiculous supposititious case which was constructed to illustrate some of these verbal casuistical combats, and with the careful avoidance of the manifold ethical problems of the real human heart,—through such characteristics our "Moral Science" was no more scientific than "Christian Science," and nothing at all so practically helpful. Yet, it should be added, the lovable old president, who had not allowed his real ego to get into his book, somewhat atoned for the sins of his philosophical ego by his personal example and intercourse with us. It is interesting to note in connection with the language studies that, although we were supposed to make special efforts to get at the literal meaning of the philosophers studied, we were never

taken back to their original classic or modern languages, but our instructors were quite content with English translations, or even more often with mere parched paraphrases.

Looking back from an intelligent interest in the wide range of mental phenomena within and all about us, what did our college education do? The required course in "Intellectual Science" was based on a book similar to the "Moral Science." In the algebraical jugglery of compounding the trinitarian ego out of the personified sensibility, intellect, and will, and in learning by heart a series of definitions and verbal distinctions, it never occurred to us that we were supposed to be studying our very own selves. In a then newly introduced elective course in physiological psychology, which made some scientific pretense by requiring us to learn the Latin geography of the brain surface, the only visible aim and interest of the teacher was his repeated assurance that there was no danger after all of this new fashioned brain-psychology's changing the good old metaphysical intuition of the independence and supremacy of the soul in its temporary use of the grovelling body. We never saw a real piece of brain, much less a nerve cell, nor any apparatus for measuring or testing the senses, memories, or associations. The individual growth of mental life in the child and its race growth from the savage to civilization, the comparison of our own intelligence with that of the whole animal series below us, the wonderful complexity of our mental life, its manifold individual varieties in personality with the imperceptible transitions over to genius, eccentricity, and insanity; the psychology of social life, crowds, crazes, fashions, etc.; the fascinating mixture of superstitious reasoning, subconscious mental processes, and important truths in the popular psychical research phenomena of hypnotism, telepathy, hallucinations, and many forms of suggestion cure; the complete dependence of our mental life on our marvellous bodily life as they develop together, as the mental vitality varies synchronously with bodily disease, fatigue, poison, health, senile decay and death:—no knowledge of or interest in these constituents of culture were given us in college.

But now, after this pitiable list of culture credits from our college instruction there is happily some relief from these depressing memories. Our abiding and growing interest in economic, political, and sociological subjects is due—Gott sei Dank—to the political economy courses which were chosen in senior year by five-sixths of our class, and was voted the most popular study. The permanent result of this study was due to the strong personality of the instructor, his deep earnestness and continued study in his subject, to his lecture method of stimulating us to want to read and observe instead of forcing

us through a single text-book, and his distributing to each couple of us an armful of the best economic works from his loan library. Though but few of us really read these reference books, yet the mere sight of them on our otherwise scanty book shelves in our own rooms was a daily reminder of the indefatigable work in which our rugged teacher actually lived and delighted. Thus his inspiring power, even more than his marshalling of evidence and caustic satire, made this the first actually living subject in our college course, as was seen, *e. g.*, in his reversing nearly all of us into free-traders.

Another course, whose popularity depended even more on the man alone, was elementary law. Our permanently resulting interest in this subject itself was much less than from political economy; but the broadening influence we got from it was again from the vigorous, sympathetic, and just character of the teacher, as also from his method and spirit of trying to help us. When this really great teacher was called to be ambassador to England our celebration in his honor and the keen sense of our loss are among the most genuine events and memories of our college life.

One other course there was, which produced permanent, grateful results, and this was an elective study of Mill's logic. The interest aroused on getting to a great man himself after we had gone through the required and wretched little Jevons logic, the leadership of a teacher seriously eager for new light himself, and our consequent informal discussion of the most important chapters,—all this was the opening of a new world to several of us. The natural attraction of such a subject, man, and method was so irresistible that we petitioned the instructor to continue the course as mere voluntary hours without credit; whereupon the utterly unheard-of scene was enacted on many a spring afternoon of men voluntarily coming from tennis courts and filling a room to standing for the sake of discussing Mill's famous chapter on Liberty and Necessity. A gauge of the college culture at that time and a lasting shame and disgrace to its memory is the fact that this teacher, who could so attract us to sound reasoning and intellectual freedom, was decreed to be dangerous to youth and was dismissed from the college. Likewise it was an open secret that the authorities would have been only too glad and did try to dismiss that strongest character connected with the college, the professor of political economy, because of his teaching of evolution as it came in his field.

There are some of the deepest and most precious recesses of a cultured heart which find no paths of connection with our Yale education. One of these depths is music. Not the sentitimental or hilarious rhythms and tunes of quavering mandolins,

negro minstrel banjos, Spanish guitars, and the lusty American college glee club; but the real knowledge from repeated hearing, and so a living daily companionship with the Schoene Muellerin and Winterreise song-cycles of Mueller-Schubert, the Heine-Schumann "Dichterliebe," the Tieck-Brahms "Magelone," with both piano trios of the lovely Mendelssohn and the heavenly Schubert, with the Mozart and Brahms clarionet quintets, with the 83 string quartets of dear Papa Haydn, with the Shicksallied and Deutsche Requiem of Brahms, with the art revolution in all the music-dramas of Richard Wagner from the Fliegender Holländer through the white heat intensity of Tristan and Isolde, the idealized satire of the Meistersinger, and the enormous world tragedy in the trilogy of the Niebelungenring to the greatest ethical Paradise Regained in Parsifal, and above all with the king of kings, Beethoven. To put another seriously tested comparison in evidence let me record my deliberate judgment that all Yale College could give me in four undergraduate years and two graduate years up to a Ph. D. does not begin to have the living culture-worth which I got during my first year only in Germany from Beethoven alone. To have heard the Ninth Symphony five times, the Missa Solomnis twice, to have heard all the other eight symphonies, Fidelio, a half dozen of the immortal string quartets and piano sonatas, and even seldom heard works like the Triple Concerto and the Trio for two Oboes and English Horn, to have played in all the piano trios and violoncello sonatas, to have come to know all these also through the scores as a part of my library and with some of the scores always lying open at hand as a change-off study,—such a companionship satisfies the heart, wears longer, and grows more precious with years than a Yale education.

Likewise if one loves to drop into the Metropolitan Museum, the National Galleries in London or Berlin, or has gathered photographs of his chosen masterpieces of painting to keep him company in his home library, if one has found the grand old English cathedrals drawing his footsteps thitherward with his growing knowledge of their noble architecture as well as history, if one has come to have an interest and sympathy for the struggling artist-architects in our own land as they try to temper our mere investment or display buildings with some permanent culture,—any such interest in art cannot be credited to our Yale studies. For, in spite of the art school on the corner of the campus and its worthy special students, we academics were no more influenced by it than by the Peabody Museum. None of our professors told us by precept or example that we would find art a beautiful, comforting, and stimulating friend to cultivate; so we left college with the popular barbarian con-

tempt for art as being a harmless occupation for girls and weak-minded men.

Another of the most serious heart depths for which we unfortunately can feel no gratitude to our Alma Mater is for some religious freedom or emancipation. Not that the college was bigoted or even sectarian, but the compulsory daily prayers with its parody on all spirituality and the Sunday morning service with its desiccated sermon were a farce even to the best of us Christians. In the small voluntary groups at the preparatory lectures and communion services we got some peace for helpful meditation. But we should have sooner gone to the good old mulatto soul of the college carpenter for any spiritual consolation than to the college pastor, whose regular Sunday announcement of his being "always accessible at 118 North College for pastoral council and advice" was one of our greatest college jokes. In our own student religious life, however, as in our democratic social life, our voluntary activity in the college Y. M. C. A. and its inter-collegiate conventions, in our class prayer meetings, and in the several mission schools of the city, was in many ways of much ethical value. The very few of the faculty who really helped in these student meetings thus came in to some grateful tangibility to us. But most of them showed no more opinion or feeling one way or the other in religion than they did in the subjects they taught. Thus the college gave us no help in seeing that conduct was the only essential and permanent part of all sects and religions, that our anthropomorphic theology would fade from a threatening literalness to a persuasive figurative and consoling poetical function. No intentional influence of our courses in science, Plato, literature, German, philosophy, or ethics pointed us ahead to some such theological emancipation and the consequent ethical strength which is found in various degrees and forms in the Histology and Physiology of the Nervous System, in "Man's Place in Nature," Emerson's Divinity School Address, Clark's Ten Great Religions, Plato's Phaedo, Kant's Critique of Pure Reason, the Thoughts of Marcus Aurelius, George Eliot's "Oh, may I join the choir invisible," Tennyson's In Memoriam, Matthew Arnold's Thyrsis, Fiske's Idea of God and Destiny of Man, Tylor's Primitive Culture, Goethe's Faust, Browning's Ring and the Book, Huxley's Science and Christian Tradition and his Life, the Correspondence of Liszt and Wagner, John Stuart Mill's Autobiography, the Cathedrals of Lincoln and Durham, Wagner's Tannhäuser, Brahms's Deutsche Requiem, and in the last sonata, quartet and Ninth Symphony of Beethoven.

Having thus reviewed all the appreciable influences in the Yale curriculum and instruction in their relation to a gradu-

ate's later culture, were there any other influences in the college which contributed to future culture? Yes, and important ones, too. First of all a healthy modesty and self reliance was cultivated by the democratic spirit which was particularly characteristic of Yale student life. The cosmopolitan life of daily contact in the class-room, in the dormitory, at the eating club, and on the athletic fields with missionary sons from India and Hawaii, with wealthy New Yorkers, with proud and narrow-blooded Puritanism, with southern fire and chivalry, with close pecuniary Vermont thrift, with the loudness of Chicago, with the generous and kindly swagger of California, and with the hayseediness of Iowa and provincial Connecticut,—such friction tended to develop a democratic self reliance. How much of this should be credited to the college faculty is hard to determine. They at least ground us impartially, irrespective of wealth, station or family, and an occasional professor mingled with us in a character metamorphosed from the class-room as a living and sturdy young man. But by far the greater part of this wholesome democracy was from the students themselves. Besides the dormitory life in common the three main influences were open competition for editorships on the student papers, and specially the "Lit.," the selection by the great senior secret society of fifteen men of proved and highest ability, and the healthy activity and competition in athletics, in some form of which every one regularly exercised. In spite of some mistakes and an occasional outcry of favoritism, on the whole each student had to make his own place in the student world of ability and honor. Thus the characteristic Yale spirit of democracy and perseverance, which is probably more prominent there than at other colleges, is chiefly due to the cosmopolitan character and traditions of the students themselves. For the grind of goading discipline in the curriculum does not compare in the training of perseverance with the voluntary labor and hardships which a student will gladly undergo in some pleasurable activity or in a study yielding some scientific knowledge or culture.

When now a Yale graduate looks back from his fifteen years of subsequent education upon his undergraduate academic life and tries to fairly summarize its contributions to his culture, the result is that a great deal can be credited to political economy and to the instructors in law and in reasoning; almost nothing to the sciences, the classics, English or modern language literature, and philosophy; absolutely nothing to music, art, and religious emancipation; while the debt to Yale democracy and perseverance is due but slightly to the faculty themselves. One of the fundamental means by which this antiquated plan of education was fostered at Yale was by

the inbreeding of its teachers. For there continued pre-eminently the old practice of selecting the new tutors from the valedictorians and high-stand graduates of each class, before they had time or stimulus to study elsewhere at home or abroad, and training them for professorships while in the continued treadmill grind of pure discipline. Thus, with the narrow barbarian stage of the faculty on the whole, how was it possible for us students to gain a larger horizon of life? The typical result of such an education is a hail-and-well-met man of vigor in action and business, of a wholesome democratic modesty, with an unusual enthusiasm for his college, but with a genuine Philistine indifference or even contempt for the culture of science, intellectual freedom, good books, and art. The overwhelming mass of Yale graduates thus remain, more than other college men, on their graduation barbarian plane and continue their loyalty to Yale through the illusion of ignorance. The few who chance to study non-professionally further at other American, English, or German Universities discover more or less of this Yale travesty on all that is most beautiful and noble, comforting and stimulating, satisfying and inspiring for all the depths and heights of our actual everyday life. Because most of her sons never experienced the loving helpfulness and wise culture of a great-hearted mother, Yale is honored as an Alma Mater instead of reproached as really a castigating step-mother. It would be altogether unreasonable to expect that all these maturer best things of a culture-companionship should have been given us in our undergraduate maternal dependence; but that we should have been so almost purely disciplined as not to have been given a start and an impetus toward these highest things of life,—that is the dreadful pity and shame.

Yale has progressed greatly during the fifteen years since the foregoing picture of its education, notably in the introduction of laboratory methods of teaching the sciences, in the range of the sciences offered, in the less exclusive education of its teachers, in the pursuit of original work by instructors and students, in the provision of noble music, and in the secularization of the presidency. But in a college where progress has chiefly been made by yielding reluctantly to outside pressure through imitation of, and competition with, other more advanced universities, instead of striving from within to realize the high ideals of culture as they are refined from the wide life-experience of the teachers themselves, and has gloried in this conservatism, there is little hope that it will ever become the equal or even the worthy compeer in culture of many of our larger and smaller American colleges. It was decidedly inferior to many at the time of this picture, its assumption of the name

of university was only justified by its heterogeneous conglomerate of professional schools; while the present academic college, as the core of the bi-centennial university, is still grotesquely far behind the spirit, freedom, and methods of original work and the grade of genuine culture which not only make Cambridge and Berlin, but which are happily engrafted on to our American life in such universities as Clark, Harvard, Columbia, Cornell, Chicago, Stanford, and several smaller ones. Most of the other older colleges and universities would be found upon analysis to be quite as far behind genuine culture in many of these components; and Yale is here taken as probably the most conspicuous example of this conservative type of supposed education.

There are undoubtedly some fathers who would deliberately choose to send their sons to Yale because they believe that the wholesome democracy there more than atones for the lack of culture. But to those many fathers who have not deliberately made this comparison, and to those idealists in education who test a university by its approach to the individual standard of a widely gathered and deeply-felt culture, this historic and detailed comparison is offered as a postscript to the vague and indiscriminate jubilation of the Bi-Centennial Anniversary of Yale.

ILLUSTRATIONS OF THE APPLICATION OF PSYCHOLOGICAL PRINCIPLES TO ETHICAL PROBLEMS.

A LAY SERMON CHIEFLY UPON THE PSYCHOLOGY OF RENUNCIATION.[1]

By EDMUND C. SANFORD.

That psychological principles have useful applications in the arts of medicine and pedagogy will hardly be questioned under any but a cramped definition of the science. It is not of these, however, that I desire to speak, but rather of their application in a less tangible field that, namely, of the conduct of life. I wish, in a word, to consider whether or not psychological theory can furnish a basis for anything like a rational hygiene of the spirit—what it can do now toward that end and what it may be expected to do as the science is cultivated with that end in view.

The business of a science in general is to bring order and system into the experiences of mankind; to note, arrange and classify; to trace antecedents, consequents, and mutual relations, and to formulate the uniformities observable among them. The business of psychology in particular is to bring order out of the chaos of those experiences that we call mental—thoughts, emotions, volitions.

The question then is this: Has the science of thoughts, emotions and volitions any generalizations that throw light upon the experiences that we commonly call spiritual, or are these something of a nature apart, to which the laws of mind do not apply? I have no hesitation in saying that the science of psychology has such generalizations, and the chief purpose of this paper is to show that it has, first by several simple instances and then by a fuller examination of a spiritual experience of a more complex character—that, namely, of renunciation.

Let me begin with a very simple case. The Scripture says, "He that hath, to him shall be given, and he that hath not,

[1] The substance of this paper was originally presented before the Philosophy Club of Wellesley College, and has been used since on several occasions.

from him shall be taken even that which he hath." Taken as it stands this is a paradox, but it doubtless sums up the results of repeated observation, and experience justifies it. Examined in the light of psychology it proves to be nothing more nor less than an epigrammatic statement of the principle of apperception. We progress in knowledge of any sort because the new items are joined on to those we already possess. We comprehend a new experience by means of similar experiences in the past. What cannot thus be joined on and understood means little to us and is soon forgotten. Connected experiences form lasting association groups which influence the course of future associations, and thus strengthening themselves, come to control the whole course of thought. The student who selects the medical profession is at first open-minded upon many questions in and out of medical practice, but having gained a little medical knowledge he gets an apperceptive group of medical ideas that influence him not only in his medical thinking but in all his thinking, and may even in the end make him oblivious to all other points of view. It is like the stick of driftwood in a river, which first runs aground itself, and then catches other drift and weeds and sand till it becomes an island and turns the course of the stream. The converse is also true; the log that does not ground gathers no debris and makes no island; the thought that flits through the mind and forms no associates does not return and is forgotten; from him that hath not shall be taken away even that which he hath. Habit may make it natural to think of the Scripture phrase as limited to the religious life, but in the light of psychology it has a much wider scope. It is true of all mental experiences, evil as well as good, trivial as well as weighty.

Let me take another simple example. The wise have said, and experience approves, that "out of the heart are the issues of life." In psychological terms this is simply that the basis of character is emotional; that what a man really cares for, that will control both his action and his thought. Emotion is the genuinely fundamental thing in our psycho-physic make up; not emotion in the superficial form of conscious emotionality, but the really deep feelings that we are more or less unconscious of because we do not know what it is like to be without them. How does it come about that these deepest emotions hold the fundamental place that they do? It is because they are the survivals of important racial or individual experiences—experiences so often repeated or so vivid at their infrequent repetitions that to neglect them has meant serious consequences.

The experience of conversion is certainly a genuine spiritual experience, not one that falls to all, but in the minds of many

the spiritual experience *par excellence*. One comes, like Christian in "Pilgrim's Progress," to feel the burden of his sins; passes through a time of wretchedness and fear on account of them; finally sets out on the road that conscience indicates; and finds in it an exaltation of happiness as great as his misery has been deep. Such an experience, when genuine, is no mere superficial play of emotion, but leaves the man changed in aim and conduct. Something like this is the case of a typical sudden conversion, and some perhaps would be ready to remove it entirely from the category of natural experiences and give to it a wholly supernatural origin. A little study of it by objective methods (*vide* the work of Daniels, Leuba, Starbuck and others) reveals, however, that it is a very complicated matter; one into which many streams of influence enter—some even physical—and, above all, that it is not a unique experience, but one found in all degrees of intensity from volcanic explosiveness to imperceptibly slow evolution, and found also in many secular relations of life. It is unique in the sense that passionate religious emotion is unique and in no other; it is the last term of a series of which the lower terms are common and easily understood. It is found, for example, both in the statistical studies and in the experience of revivalists that the harvest time of conversions is in the adolescent years when everything—physical, intellectual and social—conspires to give the growing boy or girl a newer and fuller and less selfish vision of life, to assist him in turning away from the old and putting on the new, not only in things moral and religious but in all things. To be dissatisfied with one's course or condition and to enter with lightened spirits upon a new one, is something peculiarly easy in a time of transition like adolescence, but is not uncommon at any time. Such a new start is conversion, rendered important by the importance of the questions involved, and rendered violent at times by all that can play upon human emotion. A work of God it may be, but a work executed through changes in body and in mind that follow laws as rigid, though obscure and complicated, as those that govern the growth of a seed or the disintegration of a rock.

But let us turn to the matter of renunciation. If there is one thing more than another that the great teachers of the spiritual life have urged, it is renunciation, self surrender. Reluctant as he may be the would-be disciple gets no answer but "go thy way, sell whatsoever thou hast . . . . and come, take up the cross, and follow me." The Scripture says: "Whosoever will save his life, shall lose it; but whosoever will lose his life for my sake, the same shall save it." Thomas à Kempis has these four rules for inward peace—"Be desirous, my son, to do the will of another than thine own." "Choose always to have

less rather than more." "Seek always the lower place and to be inferior to every one." "Wish always and pray that the will of God may be fully fulfilled in thee." Two of these rules, the first and last, clearly enjoin self-surrender. The "Theologia Germanica," of which Luther said: "next to the Bible and St. Augustine no book hath ever come into my hands, whence I have learnt or would learn more of what God and Christ and man and all things are," is earnest in its denunciations of the "Me" and "Mine," and has chapters headed like these:—"How the perfect men have no other desire than that they may be to the Eternal Goodness what his hand is to a man; and how they have lost the fear of hell and hope of heaven;"—"How that if a man will attain unto what is best, he must forswear his own will; and how he who helpeth a man to his own will helpeth him to the worst thing he can;"—and again:—"How nothing is contrary to God but self-will, and how he who seeketh his own good for his own sake findeth it not; and how a man of himself neither knoweth nor can do any good thing." Tennyson says:

> "Our wills are ours, we know not how,
> Our wills are ours to make them Thine."

And Chaucer:

> "Waivë thy lust and let thy ghost thee lead,
> And truth shall thee deliver, it is no dreade."

The attitude of self-surrender occurs again and again in varying phrase in the church hymnals. Self-surrender is the very crisis of the experience of conversion, and the appeal for self-surrender is the key note of the preacher and revivalist. Nor is the exhortation to renounce confined to Christianity. The Nirvana of the Buddhist is a state in which everything has been renounced, even separate and individual existence. One might almost say that religions are popularly regarded as spiritual just about in proportion as they enjoin renunciation.

Such has been the voice of the saints and mystics, though it must in fairness be admitted that it has not passed wholly without challenge. Against the more serious forms of renunciation human nature has rebelled, and not a few proverbs have been coined to commend the self-assertive. "Heaven helps the man who helps himself." "Look out for number one." "To thine own self be true." The same thing gets a more drastic expression in the *Herrenmoral* of Nietsche and in the ethics of the survival of the fittest. But by far the preponderant exhortation of those who have taken life seriously has been: Renounce.

What shall psychology say to all this? Let us examine a little what we mean by renunciation. We find it to be a giving

up of one's will or desires—a giving up, generally, which costs a struggle; or, to express it a little more exactly, a struggle between two opposing wills or two opposing desires, one of which finally takes precedence of the other and is acted upon; and we find the giving up or the suppression of one contestant recommended as the road to peace.

In an insignificant way, this is a daily experience. Our minds are continual fields of conflict. Herbart is right in making the struggle of ideas the most important thing in the mental world, and we have in the quiet thought which succeeds the suppression of one idea by another, the parallel in miniature of the result of the more tragical cases to which the word renunciation is usually applied. One is listening at the telephone while conversation is going on in the room. He is bothered and in discomfort until either the telephone conversation or the other is at an end. Then he listens in quietness and at ease. Every one remembers the predicament of the poet in the presence of his two sweethearts, "how happy could I be with either, were t'other dear charmer away." The cessation of conflict has peace as its inevitable result, no matter on what plane the conflict may be; so that the "peace which passeth understanding," of which the mystics have so often talked, is not something unknowable or known only to the elect, not something mystical, but a sober fact; one of a most common class of experiences, unique in the nature of the struggle that it terminates not in its nature as a psychical experience.

In ordinary matters, the coming of peace is little or not at all affected by the question of which contestant is suppressed. In the telephone conversation, one listens at ease whichever of the rivals ceases; the poet was happy with either dear charmer by herself. The same is true also in the higher and more complicated cases in which we are now interested. If a man will resolutely renounce the Lord and all his works, the humilities and sincerities of religion and the spiritual life generally, he will as surely find a peace that shall perfectly possess him, with reference to such matters, as he will if he renounce with equal fervor, "the devil and all his works, the vain pomp and glory of the world," and the pleasures and pride of life. If in either case he renounces absolutely and forever, his peace as regards that source of trouble will be perfect and unbroken; if he renounces in part, his peace will be in part. It is as true of one sort of surrender as of the other. At the climax of his long and fantastically morbid struggles with a supposed temptation to "sell Christ" Bunyan did give up, accepted his eternal condemnation and therein found, though deeply melancholy,

a relative peace which proved the first stage of his return to better and saner thinking.

If this is so, why should we not as well seek peace in one way as in the other? Why should we not get rid of all scruples at once and forever? Why should we not eat, drink and be merry? Well, it seems to me that, from the psychological standpoint, it is simply and solely because it is less easy to renounce the Lord and His works than it is to renounce the devil and his. In other words, that there is that in ourselves and in society and in our environment which returns upon us again and again if we renounce that which we think of as good and right, and by its importunity breaks our peace and prevents our rejection of good from being final. Most of us know well enough by lamentable experience that such returns are characteristic also of our renunciations of that which we believe to be evil. That also returns, renews the conflict and destroys our peace. But the universal exhortation to renounce the evil can only mean, as I have said, that the evil is easier to renounce, is weaker than the good; that if there is over the souls of men a Huns' battle of angels and devils, the party of the angels is a little the stronger. This is optimistic, but it is what a psychological examination seems to justify.

Such a passive aspect of renunciation is perhaps what is most commonly noticed, but it is not the most important aspect nor the aspect which is embodied in the Scripture phrase that I mentioned first. It is not said that whosoever will lose his life for my sake shall possess his soul in quietness, "but whosoever will lose his life for my sake, the same shall save it"—keep alive. There is an active side to renunciation. It is a fact well-known to those who interest themselves in psychological matters, that the struggle of ideas in the mind is no more a struggle for the possession of consciousness than it is a struggle for the possession of the muscles. Every mental state tends, at least, to express itself in action or in influencing action; and every state in so far as it is unopposed tends *ipso facto* to seize upon the motor system and put itself into execution. At lower levels one has an illustration of this in the tendency to execute a movement which one may happen to have in mind when drowsiness removes the restraints. It may be that he is dropping asleep with the thought of a new tennis stroke in his mind. Just as he is fairly gone, his arm executes the stroke and wakes him up again.

One has painful knowledge of his inability to act promptly and certainly when two courses are equally open to him. For example, when in a hand at whist, he has two equally good leads, or when in an awkward social position he has two impulses at once. In higher matters this conflict gives us

shilly-shallying, and the accompanying feeling of impotence when the state is in ourselves and of impatience when it is in others. At the highest levels it gives us characters in some points like that of Hamlet, in whom opposing thoughts of action are again and again at a balance and all action is weakened or prevented. It is, therefore, as the secret of effective action that psychology would recommend renunciation. Renounce, not so much that you may have peace; renounce in order that your hands may be free to do something. "My strength is as the strenth of ten, because my heart is pure," says Galahad—pure not only of lust and worldly ambition, but pure of conflict. All the forces of the man are available for the expression of the purpose that is within him.

We are accustomed to look for examples of those who renounce completely, in the contemplative careers of monks and on distant mission fields, but this is not by any means necessary, as has been abundantly shown by the life of Gordon. Those who know his story at all know that he renounced his own will in a most uncommon degree. He took the religious phrases literally; he regarded himself as the bond-servant of the Almighty, with no other business than to do His will here upon earth till He should take him hence. The result was an unconcern in danger and a contempt for worldly honors and rewards that has rarely been equalled. When leader of the "Ever Victorious Army" in the Taiping Rebellion, he placed himself again and again in the forefront of danger. In the Soudan, to take a single instance from his life there, he rode with only a handful of men into the camp of a band of slave-traders and robbers on the point of open hostility, and even went with them to their stronghold. In freeing himself from himself, he had freed himself also from fear, and the entanglements of ambition, and every weight that might impede him in action.

Mere renunciation, of course, does not mean a brilliant career. One cannot improve the speech of the proverbial school trustee by saying, you may one day be President, provided that you renounce. The rewards of high position and great success in life are in the long run for those whose endowment fits them for such things. Cause and effect hold here as elsewhere, and renunciation is not a sufficient cause of this kind of success. The reward of renunciation is that a man shall act freely; that he shall use such capacity as he has without loss, that he shall not trip himself up nor waste his ammunition upon himself. Renounce, says psychology, that you may have the strength and freedom and grace which attend unimpeded action.

So much for renunciation in the ordinary sense of the word,

the effortful giving up, the suppression, which is made with difficulty. But as there are all grades of the conversion experience from the extreme of violence to the extreme of gentleness, so there are all grades of the renunciation experience (that is of the suppression of one desire by another) from that which is only made with strong crying and tears, to that which takes place instinctively and because it cannot be helped. Renunciation in the ordinary sense is but a species of a larger genus.

There are many givings-up which bring peace or rather insure it, and free the soul for action, which cost no struggle. These are the renunciations which one makes because he would rather than not. The renunciations that are made in the ordinary course of growth—"When I became a man I put away childish things"—the renunciations which the mother makes for the sake of her child; the renunciations which a lover makes for his beloved; the things which the saint counts as dross that he may obtain Christ. Peace and the power of free activity follow these as well as the others, or perhaps I should rather say that, were the renunciations not made and free action allowed, the most direful conflict would result.

Is renunciation a good thing in itself? it may be asked. By no means. Every renunciation is not to be recommended, even though it should promise peace and freedom for action. Even for these ends it may be a mistaken renunciation. The wrong party in the conflict may be renounced, and so the contest may only be postponed or prolonged. But besides this, there are penalties for all renunciations. A man cannot have the benefits both of what he renounces and what he retains; he must surrender the advantages of one or the other; he cannot keep his cake and eat it; he cannot serve God and Mammon.

The question in the long run, as Professor James remarks with reference to the forming of lasting decisions of any kind, is in discovering which party in the conflict will be most permanently in control. And the permanency of one or the other depends on many things which lie outside the narrow scope of conscious introspection, upon a thousand factors of physical condition, inheritance, early instruction, present environment and future environment. It, therefore, behooves one to be very cautious about renouncing for the sake of renouncing, or renouncing in any wise hastily, or for any but grave reasons, when a real conflict is in progress. Indeed one may almost say that it is best to remain passive on the deepest and most important questions of all, and to let the conflict settle itself; to let the really stronger and more lasting desire take possession of us. This, it seems to me, is the psychology of what really lies at the bottom of the pious phrase of waiting for an indication of Providence.

So much by way of a rude and hasty sketch of the spiritual

experience of renunciation and its psychological congeners. It has, with the other examples, made clear, I trust, the sort of thing I have in mind when I talk of an application of psychological principles to the conduct of life, and has shown at least the distant possibility of a rational hygiene of the spirit. Not much has yet been done and not much can yet be done in perfecting such a hygiene. Psychology is itself too undeveloped, and too little attention has been given to problems of this sort. A beginning has been made, however (witness the essays of Professors James and Royce and the investigations of President Hall and others), and there is an abundance of material. Since men began to look consciously at their lives there has been no lack of practical students of these questions, men who cared everything for the sort of life to be attained but nothing at all for the philosophy of the means of attaining it—just as there have been students of children since the first mother held the first baby in her arms but no overt child study till the present generation. The results of this practical study of life embodied in the lives of saints and other earnest men, in the rules of monastic orders, in books of casuistry, in bibles and manuals of devotion, in problems and maxims, in poetry and novels, and finally in life itself as one lives it—these are an exhaustless treasure house for the fully qualified psychologist. But he, alas, is not easy to find. He must have, on one side, a wide and vital spiritual experience (here it is pre-eminently true that one must know the things themselves before he can understand what others say about them, he must do the will before he can know of the doctrine), and he must have, on the other, a sufficient knowledge of psychological science and interest in it to organize in a truly scientific way the material which he finds—a combination that is rare in a high degree, possibly because the qualities are more or less antagonistic in themselves.

This ends my argument. I have tried to show that psychological principles can with advantage be applied to the deepest questions of the spiritual life and that such an application may be expected to do for spiritual health, by leading to the formulation of a spiritual hygiene, what physiology has done for bodily health, by giving ground for bodily hygiene.

It is quite probable that such knowledge ought to remain for the most part in the hands of those who deal with such questions professionally, as indeed it is likely to do, and should reach the majority of mankind in well considered maxims of conduct or in the form of expert advice in difficult cases. It is not every man who can attend with advantage to the physiology of digestion, though the hygienic rules based upon it are most important. But the knowledge should be in the hands of those who are looked to for advice in moral and religious

matters, and an increase in their ability and willingness to regard these things in the light of science can result in nothing but good.

But having finished from this standpoint let me for a moment take another and contrast this whole system of knowledge about spiritual things with the actual experiencing of them. Some of you are perhaps already saying to yourselves: This is all very well, but suppose that psychology has had its perfect work, that all the moral physicians are competent and all the rules of spiritual hygiene have been brought into order, will that make any great difference in the actual conduct of life, will it be any easier to set one's life in the right key, to attain any of the virtues? I must reply that this psychology of the spiritual life is a pure matter of intellect, of knowing and not of doing. Its perfection will not make any difference with the *fact* of the conflict; it will only make it a somewhat fairer and saner conflict, one fought out in the light instead of in the dark. This will be something, but the conflict is not of psychology's making, and will not end at its bidding. I do not see that advance in knowledge of any kind can directly do anything more than this. And this is not altogether an evil. To fight is to live, to have no conflicts is to be dead. There is good psychological reason for thinking that consciousness attends only those states in which there is conflict, and flies those in which everything is so well ordered that they are automatic. And this throws a back light upon renunciation as an escape from conflict. It has that result truly, but in a vigorous life the escape from one conflict only means the taking on of another. It is an inspiring thing to think, as we must, if we believe in the evolution of mind, that we are descended from a long line of fighting and victorious ancestors, of bloody victors in the early stages but of victors growing ever more humane and approaching more and more to those who win through self-sacrifice. When I read "Looking Backward" some years ago, I was struck with what seemed to me a wise insight of the author's. In spite of all the material and social changes of that remote future, one thing remains the same, the hero and the heroine fall in love with each other in the old way. There are some human tendencies that are not done away with by any shuffling of the material or social or intellectual counters, and one of these is doubtless falling in love, another is the spiritual conflict, with its respites of renunciation and its renewals again at other levels. There would seem to be a conservation of these and a few more fundamental human experiences, like the conservation of matter and of energy. And these it is that in our strenuous moods we should be least willing to lose from life.

EVOLUTION OF HOSPITALS AND TRAINING SCHOOLS FOR NURSES.

By Caroline A. Osborne, M. D.

In the arrangement of a modern hospital, the absence of a training school for its nurses would be regarded as an anomaly. The character of its service is such, that nurses trained especially for its execution are necessary to carry on the lines of treatment deemed essential to the well being of its patients. It is only twenty-five or thirty years, however, that the necessity for trained assistance has been appreciated and the training school evolved from the chaos which used to surround patients in hospitals. The development of a modern training school for nurses is most interesting, as its history is traced from the efforts of philanthropic workers to surround those disabled by sickness or injury from the discomforts and privations that fell even to the wealthy—while the sick poor were in such surroundings that even a description of their state is often too harrowing to read.

In tracing the history of the hospital and its training school for nursing service, one is led naturally, to the evolution, first of the physician, since to his efforts are the hospitals dependent on the success of their work.

Very early in the race history, gatherings of the sick at some central place, are spoken of. The friends of the sick as well as the sick themselves, would be interested in getting similar cases together, and notes on comparative treatment exchanged. The more observing of the people brought in contact with the sick would soon begin to notice similarity in diseases, and differences in different diseases. They also would observe that certain remedies produced certain results, and an empirical materia medica and therapeutics would come into existence. Soon, from an interest either scientific or humane, or both, a class of these observers would be formed for mutual exchange of ideas, and a system of the practice of medicine be evolved.

Early in the race history, gatherings of the sick are spoken of in connection with the temples of Hygeia and Æsculapius in Greece, and at Bethesda, at Jerusalem. In the temple of Æsculapius, Hippocrates, born 460 B. C., carried on his observations and investigations that give him pre-eminence among the physicians of his time, and honor even at this present day.

The first physicians were from the priest class, naturally adding to their religious instruction, rules of correct living that possessed more weight from such sources. In Egyptian history writings on medical subjects exist as early as the 14th century B. C. In Berlin there is a papyrus of this date treating of inflammation and kindred subjects. The Egyptians had as early as the 11th century B. C. a class of physicians of the sacerdotal order, who were paid by the State, and who, required by the State to treat the sick poor, practiced their art very carefully. It was impossible for them to always go to the patients needing treatment, and thus it came about that dispensaries were established where those needing treatment could come for relief. The dispensary may be regarded as the forerunner of the hospital and Egypt given credit for thus suggesting the solution of dealing with disease in the most effectual way, with least expenditure of energy on the part of those concerned in the relief of sickness.

Greece seems to have gone to Egypt for suggestion and method in the treatment of her sick. The priests were there also the physicians, and the religious teaching was given hand in hand with the medicinal treatment. In the fifth century, B. C., the Athenians built hospitals and dispensaries, and had well trained physicians long before this. One hospital was located at Piræus. Hippocrates did much before this, to separate the physician's calling from that of the priest.

The Romans, while behind Greece in culture, yet had their hospitals and physicians between four and five hundred B. C. They utilized private houses as hospitals in which to treat their sick and wounded soldiers. In the time of Hadrian, government institutions for these purposes are supposed to have existed.

Going back still to other races, we find India rich in its methods of care for the sick, and in institutions where proper care and appliances were ready for use.

In the third century B. C., King Asoka established hospitals along the frequented travel routes. His edict, cut into a rock at Guzerat, may still be seen. This edict required that these places "shall be provided with instruments and medicines, consisting of mineral and vegetable drugs, with roots and fruit; and that skillful physicians be appointed to administer them at the expense of the State." These hospitals lasted over 800 years, doing their good work long after the founder died. In Wise's Review of the History of Medicine, a quotation is given from Tounour's translation of the Mahawaso, to the effect that, "Budda had appointed a physician for every ten villages on the high road, and built asylums for the crippled, the deformed, and the destitute. His son, Upatiso, built hospitals

for cripples, for pregnant women, and for the blind and diseased, and Dhatusend built hospitals for the cripples and the sick." In our own country, dating back into remoteness, Prescott tells us there were hospitals in Mexico for the governmental care of the sick and the disabled soldiers. Their date is unknown.

We naturally look to the Jews for their methods of treatment of the sick, and care of contagious and infectious diseases, so common in the East. Very early in their history surgical operations are spoken of. Their minute and careful methods in dealing with infection, and methods of hygiene, both for camp and house purposes, may be studied to advantage, even at the present day. We find treatments for certain diseases given, the priest's calling early separated from the physician's, and the apothecary in existence.

Later, in the parable of the good Samaritan, the modern antiseptic care of wounds is anticipated, in the wine and oil poured into the wounds, alcohol being one of the most used modern antiseptics. We do not find any references to hospitals, or the care of the poor at the expense of the government, yet, from our knowledge of the people, it may be assumed that such places existed. Returning to the Romans, we find a hospital built by them at the Acilian Crossway (219 B. C.) for the use of a Greek physician, who came to exhibit the superiority of Grecian methods. As years passed, these hospitals multiplied. At the great eruption of Vesuvius, 79 A. D., when Pompeii was lost, a hospital was buried in the ashes. This was, after centuries of oblivion, uncovered—and found to consist of one large room,—a hallway, through the entire center, while on each side, there were openings into smaller rooms. In these rooms surgical instruments were found which are now in Naples, and may be seen there. These instruments consisted of "scalpels, scrapers, elevators, forceps, drills, and a well made vaginal speculum."

Xenophon, about 400 B. C., alludes to physicians and surgeons in connection with the Greek army.

In an Aurelian order 270 A. D. it is required that "the soldiers be cured gratuitously by the physicians, and conduct themselves quietly in the hospitia, and he who would raise strife let him be lashed."

In England and Rome, tombstones are found which were erected to the memory of the medical staff of the 2nd century.

In accordance with the teachings of Christianity, hospitals and places of refuges began early to be established by its followers.

In the 2nd century the idea of hospitals took definite shape in the Christian mind, and soon, under the care of St. Jerome,

hospitals came into existence. The first were near Bethlehem, then in other places. Some of these hospitals were for the lepers, the most needy, perhaps, of all invalids. Others were used for hospital purposes in the care of any disease, while others seem to be merely inns at which pilgrims could find suitable refreshments and rest.

Under St. Jerome's influence, we find Fabula, a Roman lady of wealth, building a hospital in Rome in 379 A. D. This is supposed to have been for the joint purposes of caring for the needy as well as the sick.

The Council of Nice, in the 4th century, set its seal of approval on hospitals, as representing a very necessary, as well as desirable part of church work.

The hospital at Cæsarea was built 370 A. D., and the Hotel Dieu, in Paris, in 600 A. D. The latter has been famous through the centuries. This hospital has a most interesting history, its years of usefulness extending into the 18th century, and its immense size adding to its renown.

Through the middle ages monasteries were established in various parts of Europe. These set apart a place for the care of the sick among them. It was but a step farther to receive the sick from outside the monastery, and then to build the place for the sick in a separate building from the other; thus our hospital is evolved. In all this history, no hint is given of systematic care of the sick by trained attendants. Very little was known of the value of cleanliness, and the necessity for abundance of fresh air, pure water and light was not even dreamed of.

Infectious diseases were crowded together, sexes cared for in the same beds, without regard to disease or condition until the death rate became so great, and the condition of the sick so desperate that the words, "who enters here leaves hope behind" might well have been inscribed over every hospital entrance and ward.

As Christianity spread in Europe, hospitals increased in number, but medical science was not keeping pace with the needs of the inmates, and terrible abuses crept into hospital management. Diseases spread more rapidly because the sick, aggregated in the hospitals, and exposed while in a condition to contract disease, succumbed to the ravages of infections until the death rate rivaled that of the plague.

The modern dread of hospitals very likely came from this state of affairs, and the history of these abuses handed down from those worse than "Dark Ages." The modern four-posted bedstead is a survival of the boxbed that was used in the Middle Ages for purposes of warmth. The bed being really a box with sides that closed at night. When we read that men and women

were crowded promiscuously, without regard to disease or sex into these beds, we only wonder that any one survived. The beds of the "Hotel Dieu," in the 16th century, were said to have from 8 to 10 patients each. In the 17th century it contained several thousand beds containing from 2 to 6 patients in each. During the prevalence of the Plague, 68,000 patients died in this hospital within one year.

The medical authorities protested against such hospital management, and the clergy became alive to the terrible conditions of affairs until, gradually, the principles of sanitation have taken their proper place, and fresh air, sunshine, pure water, and perfect cleanliness are the primary essentials demanded in any hospital.

Among the Mohammedans, hospitals are said to have been managed, and the medical science of the day better developed, than among the Christians. In this connection it is interesting to note that the Mosque of St. Sophia, in Constantinople, was originally built as a training school for nurses.

Among the first definite attempts to directly train women for nurses, was that made in Germany by a Lutheran minister, Theodore Fleidner, in 1822. Fleidner's attention was drawn to the forlorn, hopeless condition of the women prisoners of his little town, Kaiserwerth, on their discharge from prison. Casting his thoughts about for ways and means to better their condition, and that of the sick poor at the same time, he finally solved the difficulty by starting a little hospital, first in a small house near his. Then in an unused velvet factory, with these women for nurses. From this tiny beginning, the order of "Deaconesses" thus established has spread over the globe, until his homes for training nurses are found from Jerusalem to the western United States. The vows of the Deaconesses pledged them to the "care of the sick, the poor and the young;" unquestioning obedience to the superior nurse, was insisted on. These vows might be taken for a time only. Thus making the training desirable for any one who wished to follow that line of work for a time, but did not care to devote life to it. At Fleidner's death, in 1864, over 100 establishments existed, and 430 Deaconesses were carrying on their work.

Nursing in England was mainly done by the pauper or the criminal class. Hospitals as such only existed as infirmaries connected with almshouses, and the nursing was done by the inmates. No trained nurses existed, even for the wealthy class. They had to depend on some kind relative or be left to the cruel neglect of some "Sairy Gamp."

The files of the British Medical Journals of the early '60's are full of tales of neglect and mismanagement of the sick in institutions.

The vital question was that of nursing. One report from the London workhouse, in 1866, says that of thirteen nurses only one could read, and how medicines had been given was startling to think of.

Another physician said his nurses were good, but they were always drunk, and one was found to be imbecile.

Florence Nightingale is the connecting link between the old untrained nurse, and the modern well trained, intelligent graduate nurse. Born in Florence, reared in a comfortable English home, of sympathetic and unselfish disposition, her attention was early called to the condition of the sick poor around her, and then to the condition of the sick poor in the almshouses and infirmary hospitals. She visited hospitals in England first, studying their needs, then went to the continent. She entered Fleidner's school at Kaiserwerth, although discouraged by Fleidner himself, who did not understand why this slender English girl should care to study with his released prisoners. Miss Nightingale spent several months, at two different times, in Fleidner's school. The second time she carefully studied hospital management and sanitation.

The opportunity for Miss Nightingale's demonstration of the value and efficiency of trained women nurses in sickness came with the Crimean war. Before the medical authorities realized the danger threatening the soldiers, the pestilence had broken out among the wounded, and the dead and dying were without care or treatment. The newspapers appealed to the people, the people and the war office appealed to Miss Nightingale, and in six days from her call from the war office she was on her way to the seat of the war with thirty-eight partially trained nurses.

When they arrived they found 600 more freshly wounded soldiers from the battle of Inkerman waiting for treatment. So bad was the condition of things in the hospital that in the first twenty-four hours Miss Nightingale only succeeded in getting the dead removed from the hospital. She had to encounter the opposition from the medical authorities, who were jealous lest their province be trampled on. So well did she conduct her work, co-ordinating the care of the patient with the surgical and medical treatment, and so tactful was she with her management, that all opposition speedily vanished, and she was given control of the whole nursing part of the work. This gave her the opportunity to demonstrate to the world the value and absolute necessity of trained service in supplementing the physician's care of the patient and in gaining best results from that care.

Her training in Fleidner's little hospital, with scarcely a dozen beds, was utilized by her with her 10,000 patients, thus

doing away with the modern dangerous idea, that because a hospital is small, a nurse cannot be properly trained in it, or that a graduate from a large hospital is twice as capable as one from a small hospital.

A second contingent of forty-seven nurses came out to help Miss Nightingale; even with these, there was more than enough work to keep all busy, for fever and cholera broke out in the camp.

Miss Nightingale won the victory for trained nursing here so signally that the only question the hospital world has troubled itself with since is how best to train nurses for its service. When Miss Nightingale returned to England, the gratitude of the English showed itself substantially by the gift of a large sum of money. With this she established a fund, which was used to start a training school in connection with St. Thomas Hospital. This is one of the model training schools, and from it our own Bellevue Hospital training school was modelled.

History of Nursing in the United States.

The first hospital mentioned in history in the United States was one on Manhattan Island, in 1658, which was established for sick soldiers. Early in the 18th century pesthouses were built in New York, Charleston, and Salem, Mass. In 1751 The Pennsylvania Hospital received its charter. Private buildings were used for hospital purposes until it was finally built in 1755. The charter of the New York Hospital was obtained in 1771. This hospital was barely completed when it was totally destroyed by fire in 1775 and not rebuilt until 1791. In this hospital Dr. Valentine Seaman gave the first systematic instruction to a class of twenty-four nurses. His course consisted of twenty-six lectures, mostly upon midwifery, but also including anatomy, physiology and pædiatrics. In 1838 the Society of Friends in Philadelphia started a "Nurse's Society," having for its object the elevation of the standard of nursing, and the relief of the overworked Catholic sisters. The Philadelphia Lying-in Charity has given instruction in that line of work for about sixty years.

The Woman's Hospital in Philadelphia has given systematic instruction to its nurses since 1861. The New England Hospital in Boston began its training in 1872. In 1873, training schools were established in the Massachusetts General Hospital in Boston, in Bellevue in New York, and in New Haven the Connecticut Training School for Nurses was established.

In 1875, the training school on Blackwell's Island was established in connection with the department of Charities and Correction. This school was very much needed, as a glance

at the report of the hospital in 1874 will show. This report states that in a fever ward of 40 beds, the only nurse was under six months sentence for drunkenness, and who told the patients a story of a most shameful life with no sense of shame at all. There were no chairs with backs in the hospital, round wooden benches were the only seats, and the only pillow one of chopped straw. In the fever ward the only bathing facilities consisted of one tin basin, a bit of soap and a ragged bit of cloth passed from bed to bed. The committee thought a large number of these patients were hungry every night. Butter was only occasionally used, and the sugar supply had been exhausted two months before. These patients are cared for now by trained nurses, and order and cleanliness are the rule everywhere.

The New York Hospital Training School was organized in 1876, and in 1877 the Buffalo General Hospital Training School. From this time on, training schools have multiplied all over the country, until each little hospital has its tiny training school to care for its patients. The old idea that nurses are born, has disappeared in the later fact, that, no matter what gifts nature starts a nurse with, those gifts must be educated by continual doing and observing until the doing becomes second nature.

In Worcester, the Worcester Training School for Nurses was started in 1883 for a two years' course of instruction. This course has been extended within a year or so to three years. This hospital, the City Hospital, has 150 beds, and the school does the nursing required for its service. Treating annually, as it does, between four and five thousand patients, having a maternity ward, it offers great inducements to nurses who wish a good, all round training. Until recently, it has also supplied nurses for the service at the Isolation Hospital of the city. It has given diplomas to a few male graduates.

Memorial Hospital, of this city, was opened in 1888. It has, at the present time, thirty beds for women, and thirty for children. It is largely a surgical hospital, not of design, but because those cases come to it, and coming, get the treatment needed. The training school consists of twenty-one pupil nurses, and a two years' course of instruction.

The plan of organization of all training schools is practically the same. Nurses are admitted at any time in the year when vacancies occur. This keeps down the undesirable complications which arise when a number of new nurses are admitted at once.

Class work in a training school usually extends from September until June. One to three weekly recitations in nursing, anatomy and physiology, materia medica and therapeutics,

obstetrics and surgery are required. One or two weekly lectures by members of the staff are given on subjects connected with nursing.

The instruction, of necessity, is largely of a practical nature. The art of nursing is taught by doing it, and theory is brought in only as much as is necessary for successful, intelligent appreciation of the how and why of the doing.

Yearly or semi-yearly examinations are given the nurses by a board of examiners, selected by the trustees for that purpose. The questions are mainly of a practical nature. The class instruction is given mainly by the superintendent of nurses. Older nurses also aid in the instruction of the younger ones. As the small hospitals and training schools multiply, the charge of them is often given to a successful graduate nurse, who is matron, superintendent, and superintendent of nurses all in one.

She often has had no experience in hospital management, knows very little of the management of an institution, and may not be used to teaching. This state of affairs is much open to criticism, as nurses trained in that way are not as well trained as the need of the patients demands. To meet this need, and to raise the standard of nursing, a department has been established in The Teacher's College, New York, for instruction in Hospital Economics.

This course requires the Elements of Psychology, Application of Psychology in Teaching, Hospital Economics, Methods and Practice, Hospital and Training School Organization and Supervision, Elective Courses in Biology, Physiology and Hygiene, Domestic Science, Foods—or Food Productions and Manufacture, Home Sanitation and Management, Bacteriology and Household Chemistry.

Requirements for Admission into Hospitals.

Unimpaired health and power of endurance are primary essentials. The applicant should start free from any taint of pulmonary disease. The long hours and confinement indoors tend to lower resistance to disease, and thus open the way for infection with the tubercle bacillus.

The age of admission in a training school is between twenty-one and thirty-five years. Blanks are sent to applicants for training. These application blanks are practically the same in the fundamental requirements. Name, date and place of birth, height and weight, civil condition, defects, physical or mental, are all to be noted. Tendencies, especially toward pulmonary disease, rheumatism or uterine disease are especially important. Other abnormal conditions are to be reported. The

sight must be perfect, or corrected by glasses. Hearing and smell must be perfect.

A common school education is essential. A high school education ought to be insisted upon, but at the present time it is impossible to require this. The general knowledge possessed should be of such a character that the applicant can easily and tactfully adapt herself to any surroundings.

Letters of recommendation are required from a clergyman, and from a physician stating the applicant to be physically able to do the work required.

The aim in all schools is to eliminate the servant girl type, and to introduce the better educated "home girl," who works with a more intelligent interest and sympathetic enthusiasm than her humbler sister is capable of, be she ever so willing. After admission, the reading of things expected of a nurse might well appal even the bravest. Quoting from a text-book in use in many schools, "Unimpaired health and power of endurance, intelligence and common sense, are *primary* essentials. She must be of even, cheerful temperament, not easily irritated or confused."

"She must have acute perceptions, habits of correct observation and accurate statement, and some manual dexterity." She needs to be quiet, neat, and capable of eternal vigilance; always in a state of "vigilant repose."

All culture and refinement, all talents and virtues are needed by her in caring for her patients. The broader her outlook, the more content will she be to do her best in the one lonely room she is in, knowing that to her is given a part of the great battle going on between health and disease, and that by her faithfulness, disease may more speedily be done away with.

The nurse's attitude toward her patient must be one of unobtrusive care and thoughtfulness, watchfulness and sympathy. The sympathy must manifest itself in deeds, rather than words. Her whole attitude, expression and atmosphere must be one of cheerfulness and encouragement. She must efface her own affairs, and have no interest but the patient's while she is caring for him.

Nursing properly includes the execution of the physician's orders, in giving what medicine or treatment he prescribes. It also includes the entire care of the patient, hygienic and dietetic. The sick room is also to be kept clean, tidy, and in perfect order. She must accurately observe the patient at all times, note the effect of medicine and treatment, all symptoms that arise, and report in writing each day what has taken place during the physician's absence. This report must be a truthful, uncolored account of what has been done and seen, and no

comment that would bias the physician in any way should be allowed.

A nurse in a hospital ward in training begins her day's work at 6.30 or 7 A. M., and is "on duty" until 7 or 8 P. M. She is allowed ½ hour off for each meal. Besides this she has two hours "off duty" during the day, one afternoon after two for the rest of the day, weekly. Sunday, four or six hours "off duty."

During class time, from September until June, nurses have one to three recitations weekly besides the time off. Lectures, by the hospital staff, are also given once or twice weekly for the nurses. Examinations by a Board of Examiners appointed by the trustees of a hospital, are given the nurses once or twice yearly. The greater part of the instruction, and all the class work, is given by the superintendent of nurses, and in larger schools, by her assistants as well.

Nurses in training do all the nursing in hospitals, caring for all the needs of the patients under the direction of older nurses, medical internes and the hospital staff of doctors.

The nurses are responsible for the good order of the ward, are expected to carefully disinfect all that would be sources of danger to others. In a surgical ward, all the sterilizing and aseptic and antiseptic work is done by them, under careful supervision. This requires a wide knowledge on their part of how infection spreads, and thus how it may be prevented.

The tremendous energy there is in a few pathogenic bacteria when they gain access to a patient with lowered vitality is almost incredible. One of the hospital proverbs, that "a dirty finger nail may cause a person's death," may be literally true. Thus it is necessary that all care be taken honestly and conscientiously, not merely to go through the form of disinfecting, but the spirit of aseptic cleanliness must be alive in each individual nurse.

On entering the hospital, a nurse begins her work rather gradually. She assists the older nurses with their work, aids in serving food, cleansing utensils, keeping order in the ward and rooms connected with it. The dusting in the hospital ward is a large item, being done each day with a damp cloth, and some disinfectant being often used. The new nurse thus gradually becomes accustomed to the atmosphere of sickness, takes in details almost unconsciously, and if she shows herself apt to comprehend, quick to grasp a new situation and not afraid of work, she is given gradually more responsible work to do under competent oversight, until it is seen that she can be trusted to do the proper thing at the proper time. In English training schools, nurses on entering have a much greater proportion of "menial" work to do than in American schools.

They are allowed, however, with the consent of the older nurses, to wash the patients' heads and feet twice a week.

At the end of the month or two of probation, if the nurse has worked satisfactorily, she is accepted as a regular pupil nurse, and is allowed to wear the uniform of the school. A girl often develops wonderfully as she realizes the responsibility and care that she is expected to meet, and that on her quick appreciation of a situation depends often the treatment ordered by the physician, and that the life of the patient often depends on this quick recognition of affairs. The instruction in a training school is necessarily largely of a practical nature. Nurses are taught to do by doing, and repeatedly doing, until the repetition becomes second nature.

Each school also requires a certain amount of class work, depending somewhat on the number of patients, and the relative number of nurses to patients.

The rather long hours, and the depressing effects of being with sick people constantly, makes mental work very hard for the nurse. Add to this the fact that a large proportion of nurses have been out of school for a long time, and that even when in school, their attainments were not sufficient to enable them to do much independent thinking, the difficulty of insisting on a high standard of class work is better appreciated. It is repeatedly noticed that nurses who do superior work in the wards are often deficient in their class work. Thus the perplexing question comes up with each recitation how much to excuse and how much to insist on as a standard. Class work is given in the principles and practice of nursing: Anatomy, physiology, hygiene, obstetrics, materia medica and therapeutics and children's diseases, all have some time devoted to them.

The principles of modern surgery are taught by the actual daily work in surgery. Nurses gain a knowledge of the principles of bacteriology in a general way. Massage is also taught by practical exercises in most schools.

Probationers are given written examinations in which their spelling, penmanship, arithmetic, and English grammar knowledge is scrutinized. Questions are also asked that bear directly on what they have seen and learned in the ward, and in this way the quickness of observation and comprehension is ascertained.

The class of applicants consists of girls who have been teachers, bookkeepers, stenographers, clerks, saleswomen, servants and shop-girls. The teaching has often to be of a very simple character, to be understood. Much time is lost in this way in teaching the fundamental things that might much better be spent in technical teaching.

The power of close attention and of continued attention has to be acquired by these girls, and there is necessarily much repetition. The ability to observe accurately, to describe intelligently, to give an unbiased, uncolored statement of what is observed is very hard to acquire, and some never do it.

Unvarying kindness, courtesy, and thoughtfulness is required from each nurse both to the patients and to each other.

The ideal nurse needs to be neat and attractive in appearance, and of pleasing personality. A great deal of tact is necessary to care for her patient without antagonizing. She must be firm without being obstinate, know when to yield gracefully to her patient's wishes, and when to gently, but unyieldingly insist on compliance with the prescribed treatment.

She must be a good housekeeper; for her especial kingdom, the sickroom, needs neatness as its keynote of management. She must be acquainted with the principles of sanitary and domestic science, and realize that on the abundance of fresh air, sunshine, pure water and cleanliness depends more the well being of her patient than on all the drugs in the Pharmacopœa without these.

She must be able to use her hands skillfully, yet gently and firmly, giving her patient at once the impression of gentleness, strength and support. She must know the diet used in different diseases, and in different stages of the same disease. She must know the food value of different articles of diet, and when a cheaper, but equally nutritious article can be replaced for one more expensive.

Her knowledge of materia medica and therapeutics must cover the commonly used drugs and their preparations. She must be acquainted with their range of doses, their physiological and therapeutic action. If poisonous, she must know the symptoms expected from overdoses—also the principles of treatment of poisoning of all kinds. She must quickly decide whether emergencies are of sufficient importance to call a physician, or if she can deal with the point at issue herself. A well trained nurse never prescribes, yet she must know the common household remedies and be able to use them while the physician is on the way.

Her knowledge of anatomy must be sufficient to know the location of organs, blood vessels and nerves. Her knowledge of physiology should cover the normal processes of respiration, circulation, digestion, assimilation, secretion, excretion and reproduction. With this knowledge of normal processes, she can easily decide whether pathological processes are impending or actually in existence.

Her knowledge of the physiology of the central nervous system should be broad enough to recognize the effect of disease

at once on the mental outlook of the patient, and carefully weigh the effect of disease on the person's individuality. Her knowledge of general diseases must be broad enough to cover the general course of each disease, know its ordinary complications, and the special emergencies needed to be guarded against. Her knowledge of the infectious and contagious diseases must cover the way in which these diseases are spread through the community. Thus she can prevent contagion to a great extent. Her knowledge of bacteriology must be sufficient for her to know the common avenues of infection both of wounds and of people generally when resistance is temporarily lowered from fatigue, sickness or injury. The principles and practice of our modern aseptic surgery must literally be in her finger tips, for on her avoidance of sources of infection the success of all surgical operations depends.

The Ideal Training School.

It is too soon in the history of nursing to expect an ideal training school. Each school and each hospital has its own ideal toward which it is struggling, now faster and now slower. There are many things to criticise in the training school as it now exists.

The school has been called into existence by the hospital as the cheapest and most efficient way in which its nursing can be done. The long hours of duty, with the resulting fatigue, make much study by the pupil nurses out of the question. The problem each hospital is working out for itself is how to increase its number of nurses, and decrease the hours of practical work, thus giving more time for class work. Class work also needs to be of a more varied character.

Beside the technical training necessary, elementary physics and chemistry should be added to the regular course. Instruction in domestic science and sanitation should be thorough. The chemistry of foods, as well as methods of preparations, ought to be carefully taught. History, English literature, psychology (elementary), biography, political economy, and sociology might well be added to the curriculum. Nature study of some kind should form part of the course, both for the nurse's own benefit, and as a therapeutic resource for the benefit of the patient. When a course on this line can be given nurses, when instead of the hospital giving nurses, as it does now, $6-$14 monthly for personal expenses, nurses pay a small amount for their instruction, while the hospital takes the money used to defray nurse's personal expenses, to employ more and better equipped instructors, we shall at once see our ideal training school near at hand, and suffering humanity much better cared for. The nurses will have more individuality,

and be freer to enjoy what now is almost grudgingly given them in return for service rendered.

Marriage Statistics.

Buffalo Training School for Nurses.
231 graduates.
27% married.
Bellevue Training School, New York.
604 graduates.
18+% married.
Presbyterian Hospital, New York.
124 graduates.
19⅓% married.
City Hospital, Worcester.
144 graduates.
19½% married.
Memorial Hospital, Worcester.
61 graduates.
Nearly 23% married.
Waltham Training School for Nurses.
144 graduated.
13+% married.

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SOME RECENT CHILD-STUDY LITERATURE.

By Alexander F. Chamberlain.

The following notes on recent child-study literature are concerned chiefly with articles, which, by reason of the publications in which they appear, or the language in which they are written, are rather unlikely to be familiar to the generality of those interested in the child and in childhood. Some of them, however, are of prime importance in the special fields with which they have to do, and deserve more than a mere passing notice by title.

Growth in Stature. Koren's *résumé* of the result of the measurement of 1,284 Swedish soldiers in their twenty-second and again in their twenty-eighth year is of interest as revealing the fact that considerable individual growth in height takes place after the twenty-second and some even after the twenty-eighth year. Of the soldiers in question only 10.52% showed no change during the seven years (1893-1899), while 6.07% showed a decrease, and 83.41%, the vast majority an increase. During this period the average height of the soldiers increased from 1697.1 to 1713.4 mm., or 163 mm. The measurements of 48 soldiers for 1898-1899 indicated an average increase for the year of 10 mm.

Somatic Characters and Intelligence. Dr. Schliz's detailed study of the primary physical characteristics of 5,736 school-children (aged 11-14 years) from the region about Heilbronn leads him to the following general conclusions: 1. Color-types are not absolutely primary race-classifiers. 2. In the case of Heilbronn there is no marked drift of dolichocephalic (long-headed) individuals towards the city. 3. The order as to intelligence appears to be: Dark long-heads, blonde long-heads, pure brown short-heads, blonde short-heads.

Anthropometry and Physical Education. As the results of extensive comparative measurements of growth of "gymnasts" and "non-gymnasts" (aged 14½ to 18 years) at the military school of St. Hippolyte-du-Fort, Godin comes to the following among other conclusions: 1. Gymnastics with apparatus (the fixed bar was the favorite) does not hinder growth in height of body. 2. It gives a greater amplitude of chest than would be spontaneously developed. 3. It increases the density of the tissues and the body-weight. 4. It favors equality of growth

in volume of the four members, simultaneous enlargement of the thorax and pelvis, etc. 5. Regulates in a general way the vital phenomena manifesting themselves in the morphologic growth of the organism. But, in order to attain such good results "the study of growth must *precede* the study of physical education, the modifying agent." Dr. Godin's article is accompanied by 13 curve-diagrams and 18 tables. Another paper on measurements of boys of 13 years of age is promised in the near future.

Children's Use of Plants and Flowers. The literature of the use of plants and flowers by children is not very extensive. The present writer, in his book on *The Child* has a little to say on the matter, and some data are included in Mrs. Bergen's *Animal and Plant Lore*, but an exhaustive study yet remains to be made. For German Bohemia and Lower Austria this has been done by Blümml and Rott, whose article cites 106 species of trees and shrubs, plants, flowers, etc., which in whole or in part, unchanged or "improved," "raw" or "manufactured," are used, in some fashion or other, by children in their games and plays, arts and industries, or for purposes of food and drink, "medicine," clothing and ornament, weapons and implements of various kinds. The number of uses to which children put these things is astonishing,—and the authors have certainly not included them all in their list. The discovery of an animal or a human form in certain flowers is often quite ingenious. Indeed, zoomorphy of this kind might well be the subject of a special essay. Certain sex-predilections are also to be noted.

Swiss Children's Songs and Games. Miss Gertrude Züricher's "Children's Songs and Games from the Canton of Bern" is of great interest as containing nothing but what is known to have been used by children themselves or by adults having to do with children as vouched for by the latter. All the material also was obtained from oral recitation. Exclusive of an Addendum of 31 numbers, the volume records 1,065 items distributed under various rubrics as follows: Lullabies 33; children's prayers and blessings 16; prayers to St. Nicholas 3; charms 15; jest-rhymes 49; finger-plays 30; "ride-a-cock-horse" rhymes 67; marching and dancing songs 29; rain and snow songs 14; "what the bell says" 13; New Year's and carnival songs 14; out of school 17; animal-rhymes 48; about food and clothing 40; dialogues, railleries, topsy-turvies, etc., 46; chain-rhymes, etc., 24; "counting-out rhymes" 98; satirical verses, street-cries, parodies, 179; secret languages, misplaced accent, exercises in talking quick 33; rhymes and songs of adults used by children 27; plays and games 130. The melodies of a number of the songs are also given. The author remarks that, although the making of willow

whistles is well-known and well-liked by the boys of Bern, the interminable series of "bark-loosing" rhymes so common in Germany seems to be entirely absent. The Bernese children call St. Nikolaus *Santi Chlous*, *Zantigglous*,which brings them quite close to our own (p. 15). The favorite secret languages of Bernese children are the *B-*, *Re-*, and *Adi-* languages (p.93). The following adult composition found its way into the mouths of the children (p. 113):

Mein lieber Lulu
Geh nicht zum Zulu,
Geh nicht zum schwarzen Mann nach Afrika;
Sie werden schiessen
Mit Pfeil und Spiessen,
Dann ist mein lieber Lulu tot.

Several variants of this song are reported. The "Reise nach Amerika" is not forgotten (p. 114).

This carefully compiled volume has in it much to interest not merely the folklorist but the lover of childhood and all its works as well. It adds much to the store of Teutonic material in Böhme's *Deutsches Kinderlied und Kinderspiel* (Leipzig, 1897), the best recent general treatise on the subject.

Development of Language. Among recent discussions of the origin of language and of languages the essay of Dr. Rodolfo Lenz is one of the very best. An authority upon at least one stock (Araucanian) of American aboriginal speech and a German long resident in a country where Spanish is spoken and written, his opinions upon matters of linguistics are of great importance. The results of his investigation into the comparative difficulties (phonetic, grammatical, syntactic, etc.) of Spanish, French, English and German are suggestive for language-teachers and language-learners. They are based in part upon his own observation of the linguistic development of the children of German, French and English settlers in Spanish America. Dr. Lenz doubts if there exists always an innate disposition in the child for the language of its parents.

Child and Savage. In his brief but interesting article, Dr. F. von Luschan, the eminent ethnologist, takes occasion to clear away some of the absurdities put forward by casual visitors and travellers of a day concerning the mind of primitive man and its resemblance to that of the child, pointing out the real likenesses between the two and giving instances of real child-actions on the part of unspoiled primitive peoples. Every devotee of child study ought to read this essay as well as the equally illuminating address of Dr. Franz Boas, *The Mind of Primitive Man*, in which the question of the mental character and capacities of civilized and uncivilized men is authoritatively discussed.

Child Art and Savage Art. Mr. David Boyle's brief notes on *Primitive Art* are illustrated by the reproduction of thirteen drawings of the human figure by children in the kindergartens of the city of Toronto, Canada. Mr. Boyle expresses the opinion that, in the matter of art, "whether we say that the savage is but a child, or the child a mere savage, is quite immaterial." In connection with this discussion one ought to read also Regnault's article on *The Physiognomy in Savage Art*, in which the author holds that savage and barbarous tribes have been more successful than is generally believed in their attempts to portray the human physiognomy.

Portuguese Child Study. The author of "Notes of a Father" is a distinguished Portuguese educator, who is also Professor of Anthropology in the University of Coimbra, the imprint of whose publishing department this little volume bears. Professor Machado has also shared in the political life of his country, a fact which has enabled him to enliven his pages with many apt and interesting parallels with the facts of childhood from adult social phenomena. The book is not divided into chapters, but consists of notes on an infinite variety of topics concerned with the thoughts and actions of his own children in particular, from the early months of life until their passage out of childhood. The style is attractive and pleasing, and the many valuable facts recorded would have been made more easily accessible by the addition of an index. The author gives us the Portuguese analogues and pendants of the gracious and ungracious things about the child to be found in our English and American chronicles of his sayings and doings: Motor-riot, photophily, arithmomania, verbal intuition, pleasure of ending or finishing anything, love of witch-stories and fear of witches, creative fancy and resurrective memory, play with ideas no less than with things, grammatical obsession, hypnosis of textual repetition, day-long games, socialization of childhood, work and rest, punishment, egoism and altruism, plasticity and individuality, diplomacy and *savoir-faire*, animism, morals, school and home, children and adults, foreigners, travel, sisters and brothers, politics, books and pictures, religion, etc.

A good specimen of the mixture of adult and child philosopher occurs on page 473: "'Exercise is as necessary as food,' I had said to Gigi. Entering my study after dinner, she observed: 'Papa, I've eaten everything, everything on the plate. And now I must do this.' And she began to dance in front of me."

When three years of age little Gigi got off a pun, which must be appreciated in the original (p. 181): "At dessert

Gigi was offered a tart (*torta*), whereupon she remarked 'Quero a *torta* e quero a *direita*.'"

An interesting part of the book is the author's epigrammatic and axiomatic reflections on pedagogical and sociological matters suggested by the phenomena of child-life under his eyes. Some of these may be cited here:

Emotions are long-lived. Children gesticulate with all their body. Light is joy. Fear paralyzes knowledge. There are emotive talents,—some persons need warming up to think. Better no explanation than a bad one. Effort is the soul of evolution. There ought to be a large margin to the personal life of children. Like primitive peoples and savages, children lose an immense amount of time in contests and debates. Harmony of minds is the most delicate work of civilization and culture. The end of man is creation, not mortification. All the faculties are sociable. This is the century of the small and the weak. Government and education are reciprocal. Nothing is born of minutiæ and ratiocination. Being well and being ill are "catching." The distempers of automatism need conquering. There is an intellectual gluttony. Moral inertia is worse. Social commerce, comradeship, are indispensable to the formation of character. Education can never be a trade. There is no traditional error that can withstand inoculation with the blood of youth. Ignorance easily changes to hate. The aristocracy of intelligence is not less cruel than the others. Ignorance is explosive mental instability. Learned and incapable are the majority of the graduates of our schools. Egoism transforms itself into negligence. The citizen cannot be improvised. Education, like government, must prevent not repress. There are no diseases, only sick people. We live by our imagination. Education is not to be anticipated. Art is cordiality, industry service, science duty. Love is a school of toleration. Idleness is optimistic. First children always suffer from the inexperience of their parents. To have something to do is the first principle of all education. Vagabondage is a vice, but it is, nevertheless, a mental resource for children, by which they escape the narrowness of the school and the vacuity of the home. A certain disorder, effervescent it may be, of the will, is an indispensable gymnastic for the eternal apprenticeship to order. Simplification of instruction is absolutely necessary. There is a normal limit of elasticity for all our acts. The greatest triumph of the teacher is in the absence of discipline. All knowledge has its roots in the most common conceptions. Change of determination is not always repentance. The psychology of the child is fundamental in education. To listen is to observe, to speak is to act. Our century democratizes everything, even duty.

Dilettanteism is a form of sensualism. There is some difference between a soul and a clock,—let us not mechanize everything. We must not confuse luck with superiority. Art precedes industry, industry science. Social love conquers all appetites. One must not moralize too soon. Study cannot abolish social obligation. To do good is more than to think or to know. Morality is not a new science, art, or trade; it is the supreme generalization of all the sciences, arts and trades, their humanization, their universalization. Science cannot do without conscience. Pleasure socializes. Fear of great duties is as bad as contempt for little ones. Woman is born a teacher. Explanation is not always justification. No society can be directed by government alone,—in order to make live one must live with. The spring of life solicits children on all sides. The school must not teach servility. Nothing moralizes children like the sight of their parents; nothing moralizes parents like the sight of their children. There is but one immortality—that of good deeds. There is no gymnastic like that we have with our children. Human life is a life of the soul, of the heart.

To an American, the most satisfying thing about Professor Machado's book is the real democratic spirit that pervades it. It is human no less than scientific, and one feels that he lives with his children as well as for them and in them. One is refreshed after reading a book about the child by an author who retains his humanity.

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THE ORIGIN AND DEVELOPMENT OF JEWISH EDUCATION.

By G. Harold Ellis, Fellow in Clark University.

At the dawn of their history we know the Jews as Arab nomads settled in the hill country of Palestine and dividing their time between agriculture and war. How they came to exchange their roving life of the plain for that of the agriculturist, we have only their traditions handed down through long generations, but from them we may derive what is essential in our quest—the historical development of their religious and social institutions. What the Jews originally were can be inferred from a study of the modern Bedawin who have remained practically unchanged in historic times.

This change from a Bedawin tribe to the Jewish nation was brought about by a forced emigration from the old seat to Palestine, where the new conditions of life gradually changed them into an agricultural people.

Palestine is one of the most remarkable geological formations in the world, and the influence of the physical features of the country on the development of Jewish character has long been timidly held, but under the anthropological investigation of environment it has been made a scientific fact.

Of the factors of evolution, environment is by far the most potent and modifies both heredity and self activity. Variation in species is the proof of the one, and in the light of what has been said of it in biological studies, needs no comment here, while O. T. Mason (7)[1] has given abundant evidence of the other.

As compared with its psychical influence environment has but little to do with the physical man, and hence one must consider the intellectual development as the matter of chief concern in human evolution (8). Self expression of man is in accord with his environment. The art of the Esquimo, the California Indian, and the Pueblo is of a nature corresponding with the material accessible—walrus bone, burned brick or volcanic rock. (7, pp. 556-661.) Food, dress, and home life are all dependent upon the character of the environment. Japan is a typical example of this (6).

[1]Numbers in parentheses refer to bibliography at the end of this article.

Turning to the Jew we have in his physical surrounding the explanation of his character. This is seen in their literature, is generally taught by even the most conservative of Biblical scholars, and has been recently admitted by Prof. G. F. Wright, of Oberlin, who says, "The peculiar development of Israel demanded isolation in a peculiar country. Otherwise they would have been amalgamated with the more numerous, more powerful, and more civilized heathen around them, and their exclusive religious development would have been rendered extremely difficult if not impossible." (9, p. 360.)

In religious matters the Bedawin have but little sense of moral claims, though the name of Allah is continually on their lips. In this they are closely akin to the early Jews in the Old Testament, who were crafty, treacherous, adventurous, brave and vengeful in war. These characteristics are ascribed to the Old Testament heroes. The craftiness of Jacob (Gen. 27:30, 37-43) is proverbial, while David's unkind thoughts on his death bed go uncondemned (1 Kgs. 2:5, 6, 8-10), though he elsewhere (1 Sam. 24:4, 5; 1 Kgs. 2:7) shows a different spirit. Nowhere as in the Psalms is the passionate spirit of the Jew, shown in these two aspects just given, so well expressed. From the most profound religiousness (Ps. 23, 42, etc.,) the thought goes to the other extreme of most bitter imprecations against their enemies. (Ps. 35, etc.) The Book of the Covenant (Ex. 21:22-22:33) shows by its very condemnation of vices that they were alarmingly common, while the stories told of the Patriarchs (Gen. 12:10-20; 20; 26), of Samson (Judges 13-16) and David (1 Sam. 25, etc.), show that the popular conceptions of these heroes were not always edifying or even moral.

The softening influence of culture gradually brought out the higher ethical ideals, but the events of the Maccabean period and the later struggle with Rome showed that the old fire had not died out, and only needed a little fanning to kindle it into more than its old fury.

Prof. Ripley has shown (10, p. 391) that the old theory of Jewish purity of blood is a myth. Being forced by stress of environment they have adopted the language of the people among whom they settled, and mixed somewhat with them. Deprived of civil rights and persecuted they had no other refuge than their religion. In proportion as adversity comes does man rest upon God. Added force is given to this from the history of the Jews in ancient times, and also from the fact that to-day they are "orthodox" only in the countries where they are persecuted.

Our conclusion, then, must be that the Jews began low down in the scale of culture and gradually developed through

the same stages that other peoples have passed. The stages of development of a nation's educational system coincide with the periods of its life. The one is the reflex of the other.

Many works on Jewish education have failed to give a correct view of the matter because the relation of history to the mental development of the people was not recognized, or because the arrangement of historical material was made from an *à priori* dogmatic point of view. An enormous literature on Jewish education has grown up but the lack of scientific accuracy has made it almost worthless.

The treatment of the subject of the early Jewish education will be divided under the following heads, conforming to the periods of Jewish national history:

1. From the beginning of history to the Exile (c. 1000 to 586 B. C.).
2. From the Exile to the founding of Alexandria (586 to 332 B. C.).
3. From the founding of Alexandria to the fall of Jerusalem (332 B. C. to 70 A. D.).
4. From the fall of Jerusalem to the final dispersion of the Jews (70 to 135 A. D.).

I. *From the Beginning of History to the Exile.* (c. 1000-586 *B. C.*)

Jewish history begins with the founding of the kingdom, about 1000 B. C. During the early years of the occupation of Palestine the Jews lived in a state of anarchy. (Judges 17:6; 18:1, etc.) Several attempts had been made to unite the tribes (Judges 8:22 ff.), but with no success until the time of David. With the advent of peace came the opportunity of cultivating the arts of peace.

Education, if such can be said to exist, was domestic and private. The sons were taught to hunt and till the soil, and when approaching adolescence were taught the meaning of the simple cultus and were thenceforward treated as men.

The initiations of adolescents into the state have been carefully treated by Dr. G. Stanley Hall (11) and Dr. A. H. Daniels (12), but neither bear directly on the early significance of circumcision and initiation ceremonies among the Semites. From Joshua 5:2 ff. and Exodus 4:24-26 we have two accounts of the institution of circumcision which give us to infer that among the Jews, as among other primitive peoples generally, it was performed upon young men at adolescence and just before marriage. As the Jews grew in culture this bloody rite was modified, the original political meaning was forgotten and a religious interpretation given it. This being the case, the rite was no longer delayed until approaching manhood and mar-

riage, but was performed as soon as safe in order to bring the child into covenant relations with God as soon as possible (13-16).

This initiation constituted the whole of the boy's education, with the possible exception of the few among the higher classes who may have been taught by such of the priests as knew the art of writing. However this may be, it is certain that the people who were not educated, in a literary sense of the word, soon made progress along that line, as the Moabite stone (21) (erected by Mesha, King of Moab about 850 B. C.) and the Siloam inscription (about 700 B. C.) presupposed an ability to read on the part of the persons who would see them.

As to any education of girls, that was never thought of.

This period marks the golden age of Hebrew literature, but too much must not be inferred from this, for the greatest literature of any people is not produced in the days of its intellectual greatness, but in the transition stage from the oral to the written transmission of tradition, when written language has all the expressiveness of oral speech, and is as yet untrammelled by the artificialities of grammarians. Just in proportion as grammatical perfection has been insisted upon has literature declined.

The Jewish literature of this period covers a wide range of topics. From the stories of Samson and the patriarchs we can see that the people appreciated a good story even if it was not of the highest ethical character. The song of Deborah (Judges 5) is probably the oldest piece of Hebrew literature, and is one of the finest productions in any literature (22, 23). Higher in moral worth, though below the song of Deborah in literary value, is the Book of the Covenant (Ex. 20:22-23:33) which represents the thought of the people near the beginning of our period, and deals with the civil side of the life of an agricultural people. This code reveals a somewhat advanced conception of morality but only within the limits of the tribe.

One of the most remarkable phenomena that we meet in this period is prophecy. While not belonging to education in a strict sense of the word, its influence upon the mind of the people must have been stimulating to thought, and after all the object of a true education is character building.

Perhaps the most notable stimulus to educational effort by the prophets is to be found in the work of Hosea (c. 746-734 B. C.) which was instrumental in bringing out the Book of Deuteronomy the century following in the southern kingdom.

The "Schools of the Prophets" (which by the way is an un-Biblical expression) have figured prominently in many works dealing with Jewish religious and social life, and have been termed Theological Seminaries, have had no existence ex-

cept in the imagination of modern writers, and the idea of such "Schools" is based on a misunderstanding of the text of the Old Testament. All we are justified in saying is that there were a few centers where men of prophetic spirit formed brotherhoods called "Sons of the Prophets" for the purpose of stimulating devotion through a common life, much as in the monasteries of later times, in which edification not education was the object aimed at. Prof. G. F. Moore has said that the Schools of the Prophets were "schools" in exactly the same sense that schools of fish are "schools."

Though there was nothing like systematic instruction of children, we are given to infer that among the wealthy tutors (from among the priests) were not uncommon. Toward the close of this period a knowledge of reading and writing is assumed, and when the Book of Judges was compiled, it was nothing remarkable for a boy to write. (Judges 8:14.)

II. *From the Captivity to the Founding of Alexandria* (586-332 *B. C.*).

In 722 Samaria was taken by Sargon, and according to the Biblical account the whole surviving population was transported to Mesopotamia and Media. (2 Kgs. 17:5-6.) In 586 Nebuchadnezzar took Jerusalem and transported the people. (2 Kgs. 25:1-7.) There is reason to doubt this wholesale transportation and understand by it the removal of the ruling and artisan classes—the aristocracy. This left the lower classes in Palestine, and gave the better class a chance to develop in their new environment. A second winnowing occurred when Cyrus in 538 allowed the exiles to return home. The returning exiles represented the deepest national and religious element of their people.

The Exile was an active literary period, to which belong the work of Ezekiel and Deutero-Isaiah. The influence of Persian thought is seen in the development of a monotheism and a demonology.

Sacrifice was impossible in a strange land as Yahveh, their God, was localized in Palestine. (Ps. 137.) The only thing the people could do was to interest themselves in the past, and in the study of the literature they then possessed. Ezekiel 40-48 may be taken as indicating the line of interest. Psalm 137:1 gives the beginning of the synagogue.

The arrival of Ezra at Jerusalem was an epoch making event in the religious and educational history of the Jews. The account of the Book of Ezra-Nehemiah is most complicated, and is a compilation long after the events recorded, but the essential facts that interest us here are easily obtained. Ezra collected the people and read them the Law (the Book of Deuter-

onomy in a much abbreviated form). From that time the Torah was the regulating norm of life. That the change might become permanent, study and instruction in the Law were necessary. This work the synagogue was called upon to perform. Previous to the Exile the Jews were a people with a traditional religion, henceforth they appear as the people of a Book, to read and understand which was the goal of educational ideals.

The synagogue was not a place for worship as much as religious instruction. In the Gospels, διδάσκειν is always used with reference to the synagogue service.

We now feel sure that the command of Deuteronomy 6:7-9 was actually carried out for the first time. "And thou shalt teach them diligently unto thy children, and thou shalt talk of them when thou sittest in thine house, and when thou walkest by the way, and when thou liest down, and when thou risest up." But even then there was nothing like systematic instruction.

The manner in which the great feast of the Passover was made an object lesson is a matter full of pedagogical interest: "And it shall come to pass when your children shall say unto you, what mean ye by this service? that ye shall say, It is the sacrifice of Yahveh's passover, who passed over the houses of the children of Israel in Egypt, when he smote the Egyptians and delivered our houses." (Ex. 12:26, 27.)

Other lessons of a like character are seen in Leviticus 23:43 and Joshua 4:5-7: "Ye shall dwell in booths seven days . . that your generations may know that I made the children of Israel to dwell in booths, when I brought them out of the land of Egypt."

"And Joshua said unto them Pass over . . . . into the midst of Jordan, and take you up every man of you a stone upon his shoulder, according to the number of the tribes of the children of Israel; that this may be a sign among you, that when your children ask in time to come, saying, what mean ye by these stones? ye shall say unto them, Because the waters of Jordan were cut off before the ark of the Covenant of Yahveh . . . . and these stones shall be a memorial unto the children of Israel forever."

A leading feature of this period is the rise of the Scribes, who were an independent organization devoted to the study of the Law. They identified themselves with the popular interests, and ever remained true to the faith even when the priesthood became corrupt. Gradually they supplanted the priests in the hearts of the people. At a very early date they began education of children.

III. *From the Founding of Alexandria to the Fall of Jerusalem (332 B. C. to 70 A. D.).*

The characteristic of this period is popular education, but even here, again, there was no systematic teaching. There is noticeably a reaching out of the Jewish mind after science and Greek culture. With the founding of Alexandria came the influence of Greek thought upon the Jews. Thousands of Jews were settled in Alexandria and given special privileges by the Ptolemies. Here the Septuagint version appeared. The influence of Hellenism gradually increased until the Maccabean struggle, after which it ceased to be dangerous. Greek methods were introduced even into Jerusalem. Ecclesiasticus, written in the height of Hellenistic influence, shows unconscious traces of its influence.

By the time of the author of the Book of Chronicles (c. 300 B. C.), the Scribes were an organized guild.

The Elementary Schools (Beth Hassepher or House of the Book). There is a tradition, quite generally accepted, that Simon ben-Shetach, brother of Queen Alexandra, in 75 B. C., introduced a compulsory attendance of children at the elementary schools. These schools were distinctly religious, the text-book was the Law, the teacher was a synagogue officer and the schoolroom was in the synagogue. A general idea of methods is easily obtained. Instruction was oral and accompanied by a generous use of the rod. The alphabet may have been learned by means of the "Alphabet Psalms," and numbers from some such method as seen in Proverbs 30:11-31; 6; 16-19. Another method may be seen in the Athbash in Jeremiah 51:1, 41. A remarkable parallel to this scheme of education is in the famous "New England Primer."

The Book of Proverbs is especially a pedagogical work embodying the best thought of the times. The frequent mention of the rod is to be noted; to spare it is to spoil the child. The duty of parents to their children, and of the children to their parent is often dwelt upon. A remarkable thing about Proverbs and the "Wisdom" literature, in general, is the emphasis laid upon the objective good that is the reward of "wisdom." Utilitarianism prevails; there is no appeal made to God's revealed will in any way. Viewed from a standpoint of modern pedagogy, the Book of Proverbs has much of value, but the form of the teaching (antithetical), and the negative aspect of virtue are anything but pedagogical.

Education of girls was not planned for in the elementary schools. Mothers instructed the daughters in the practical arts of the housewife (which the modern "female seminary" usually omits from its curriculum). See the acrostic on the ideal

wife—more ideal than real—in Proverbs 31:10-31. But we must not suppose that it was not customary for women to know the Law. The high position of woman among the Jews made it possible for them to learn of the Law, while Luke 1: 46-55 reflects the idea that it was not unusual for women to be able to quote Scripture.

The College (Beth Hammidrash or House of Study). This institution existed for the professional training of the Scribes and priests, but of its history we know nothing, but we may feel sure that it developed from a humble beginning. About the time of Christ they were common especially in Jerusalem.

The work of the scribe was threefold:

1. To find what the Law really was. This corresponds to the modern "undergraduate" course of study.

2. To give instruction to others, especially the children. This constituted most of his work.

3. In addition to his work as a teacher, the scribe was often called upon to preside as judge in a justice court. As the Law was the civil as well as the religious code it was necessary for the two offices to be united.

In these higher schools the Halachah or scientific exegesis of the Law was the all important matter of study. Owing to the literalness of the interpretation of the Law, the differences in the codes embodied in the Torah were harmonized by casuistry, and what might have been a stimulating study became a matter of moral degeneration. In addition to this the scribe never made an interpretation of his own but quoted a decision made by some one before him, and hence originality was killed. It may be doubted whether the criticism of the Scribes and Pharisees by Jesus was directed against individuals so much as against the system.

Greek and the sciences are said to have been in the curriculum of these higher schools, but both were so uniformly looked down upon that it may be seriously doubted whether Greek was ever a common study in these schools, and as to the sciences, only enough was studied to enable one to understand the calendar.

Instruction was free, and as a means of sustenance every scribe had a trade. The only fee that could be collected was the scribe's travelling expenses. The feeling of Paul on these matters were largely due to his training in the rabbinical schools, and to the desire to do as much for Christ as he before did for the Law.

In Jerusalem the scribes taught in the temple courts. In the discussion of questions every one had a right to take part. Luke's story of Jesus among the Doctors gives a picture of the custom of the times.

The most noted of the schools were those of Hillel and Shammai. The grandson of Hillel, Gamaliel I, was the most noted teacher of his day, and it was a matter of pleasant memory to Paul that he had sat at the feet of the illustrious teacher.

From Paul's reference in Acts 22:3 we learn that it was customary for the pupils to sit before their teacher who probably occupied a raised seat, but Luke 2:46 gives us to infer that it was not always the case.

From the expression—"Scribes of the Pharisees," we infer that the Sadducees had scribes as well as the Pharisees.

The Gospels assume, from the frequent mention of the scribes, that the elementary schools were common, and their great influence and prominence may be seen. (Mat. 23:6, 7; Mk. 12:38, 39; Lk. 11:43; 20:46.) The title "Rabbi" was not in use until after the time of Jesus.

An interesting commentary on the education of the time is that of Jesus. He never attended one of the rabbinical schools (Mk. 6:2, 3), and this allows us to see what advantages the common people had. His knowledge of the Scriptures was very remarkable and unchallenged. He could read Hebrew, and was often called upon to officiate in the synagoge. (Lk. 4: 16; Mk. 1:21, etc.) This ability was not common as the popular tongue was Aramaic. As a child the earliest thing learned was the "Shema" or Jewish confession of faith.

Even as late as 57 A. D. Greek was not commonly spoken, for to the surprise of the centurion Paul was able to speak Greek to the Hellenistic Jews, though he actually spoke to them in Aramaic. (Acts 21:37-40.) Josephus was used by Titus in 70 A. D. as interpreter, so Latin as well as Greek was not commonly known among the Jews at that time. From Paul's knowledge of Greek and from some other sources we are led to infer that it was taught in a few of the rabbinical colleges, but even there with some disfavor. The knowledge of Greek literature that Paul shows is of a popular nature and not the result of first-hand study.

IV. *From the Fall of Jerusalem to the Final Dispersion of the Jews (70 to 135 A. D.).*

The great war with Rome began in the year 66, and though Titus took Jerusalem in 70, after a long siege, the war continued until 73 when Massada fell. Peace came then, but it was the peace of the grave. Jews were forbidden to come to Jerusalem on pain of death, and the temple tax was turned to support the temple of Jupiter Capitolinus. The one gathering point which remained for the Jews was the Law. About this they gathered with the firm faith that it would come again to have authority. Soon after this the Jewish temple

at Alexandria was closed and Jamnia became the chief seat of literary activity. Here the study of the Law was taken up with a zeal before unequalled. The temple ritual was carefully taught that when deliverance should come there might be those who could perform the sacred rites in proper form.

Messianic hope grew stronger, and a rebellion occurred in 115-117 under Hadrian, and in 132-135 a more violent outbreak was led by Bar Cochba, "Son of the Star," a name taken from the supposed fulfillment of Numbers 24:17. The rebellion was put down with great severity. Hundreds of thousands were put to death, and multitudes sold into slavery. Every trace of Hellenistic Judaism was destroyed by this war, and Pharasaic Judaism became supreme in the thought of the people.

One product of the school of Jamnia, and to which Christianity is forever indebted, is the Massoretic Hebrew text of the Scriptures. Renewed study of the Law brought out the need of an accurate Hebrew text. Under Rabbi Akiba a single consonant text was chosen as the archetype from which all copies thereafter were to be made, and all disagreeing manuscripts were destroyed. That violent hands were laid hold of the text a comparison of the Hebrew and Septuagint will show. The early Christian apologists accused the Rabbis of suppressing texts that gave Christianity a ground for argument. When once the Hebrew text was settled it was faithfully transmitted even to misspelled words.

Of the education of this last period we get a view from the Talmud which gives us the following interesting facts: a school could not contain over twenty-five pupils for each teacher; over twenty-five pupils there must be an assistant; and over forty pupils there must be two teachers.

The following course of study is outlined:

1. From six to ten years, the Pentateuch or Law.
2. From ten to fifteen years, The Mishna or paraphrase of the Law.
3. From fifteen to eighteen years, the Gemara or Commentary on the Mishna.

In the primary schools study was carried on by audible repetition so the school was a babel of voices. Repetition was the keynote of education—so much so that the verb shānāh, "to repeat" came to mean "to learn" and "to teach."

Through all the succeeding centuries Jewish education has not departed materially from the Talmudic system.

Hastily reviewing the periods passed over, they may be characterized as follows:

1. The *first period* is that of *home training* among a people hardly developed into a national life.

2. The *second period* is that of the *synagogue*. Here the unity of national life is recognized and an effort made to hold it.

3. The *third period* is that of *compulsory education*. The unity of national life is recognized as certain when each individual has been trained to contribute his share to that life.

4. The *fourth period* is that of *Judaism*, in which the ideals of education are realized and completed, and all sects are merged into one common life. This is the end toward which the effort of the earlier periods had been slowly evolving under the influence of environment.

Criticism of Jewish Education.

As a pedagogical work the Jewish Scriptures are unsurpassed except by the New Testament. The literature of other peoples contains many excellent chapters on moral subjects, but treat them in an abstract way. This is true of the Koran, but in the Old Testament the teaching is by means of concrete examples of virtue and heroism. True, the standard of morality is not always the highest and the hero is sometimes commended for things which in our days would send him to jail, but all must be read in the light of the times in which the story was written, and not in that of our advanced conception of things. And after all a man should be judged not by *what* he has done so much as by the *motive* of his actions. The need of the world is not for theories of morality so much as for efforts to live morality even be it on ever so low a plane.

The human heart has ever gone out to those who have found and lived the ideal life, and to the realization of this in its characters the value of the Old Testament is due.

No pedagogical precept is more firmly established than that one learns to make a thing much easier by following a pattern, or learns to do something by seeing that some one has done it before him. Whether we look for physical courage or moral character we find it to perfection in the Sacred Books of the Old Testament.

Jewish education had for its ideal the building of character and the fitting of the individual for the responsibilities of citizenship. Thus it realized the aim of all true educational effort. It strove to give to all alike the elements of knowledge and promised preferment to the scholar, whatever his origin.

There is a dark side, however, and which caused the emasculation of the Jewish mind. Education was unsystematic, narrow and selfish. Even though the study was graded (as above shown), it was not fitted to the child mind but the child mind to it. The confinement to their Sacred Literature was narrowing to the intellect. Much it contained was not true, in a strict sense, while many fields of profitable study were inade-

quately treated or absolutely ignored. The ignoring of the sciences and thought of other peoples cannot but eventually be a great misfortune to any nation. This narrowness developed into the idea that they were God's especially chosen people, for whom was the Law, while the Gentiles were not worthy of notice. Never in Jewish history has there been an effort to uplift the less fortunate people about them. Granting all this the fact no less remains that through Judaism has come the fundamental principles of modern education.

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THE HIGH SCHOOL AS THE PEOPLE'S COLLEGE VERSUS THE FITTING SCHOOL.[1]

By G. Stanley Hall.

Education may fit the youth to live in the past, the present or the future; and systems may be distinguished according to the relative influence of each.

I. In the Renaissance, which was the golden dawn of secondary education, the past ruled. The literature and life of ancient Greece and Rome were revived. Sturm's goal was to so train his pupils that if they were suddenly transported to Rome or Athens, they would be at home in the language, history, customs. The vernacular was formed on the model of the ponderous Ciceronian sentence which set all the fashions in style. Latin was the language of the school and the playground and the schoolhouse. The games and the whole atmosphere harked back to antiquity. There was no contemporary literature, history, science deemed worth while. The fashion and the earmark of culture was to write a style interlarded with classical quotation and allusions. Liberal education consisted in reviving the dead past, and the results were remarkable. The boys became young Greeks and Romans.

How have we fallen away? Years of the study of Latin and Greek do not accomplish what months did then. Methods and results alike are degenerate. The baby Latin and Greek taught in our high schools is but a sanctified relic, the ghost of a ghost; and we find to-day almost every degree of degeneration from the Golden Age of secondary classical training. This is confessed even by its representatives in the German *gymnasia*, where the old ideal is still best maintained in the modern world. An informed writer, C. F. Adams, says in substance, that this high school fetish no more revives antique culture than the soil is fertilized by the smell of the dung-cart driven over it; and complains that he has been incapacitated for his duties in modern life by the seductions of this phantom, and that his grandfather, the president of the United States, was injured by it, although, pathetic to relate, he always praised it. The German emperor, in his famous rescript in 1892, declared it a

[1] Read before the Association of American School Superintendents, Chicago, February 27, 1902.

shame to the modern youth to excel in Latin composition, and said that he would have no more *gymnasia* or professor *Hintzpeters*. Norway forbids Latin and Greek, and Sweden has almost banished it from the secondary schools. The well-known Frankfurt method substitutes three years modern languages for these, and finds at the end of five years pupils have more than made up in charm. Mr. Reddie at Abbotsholme, Lietz at Ilsenburg, Demolins at l'école de Roches, have set back fires that are spreading in their respective countries. Booker Washington says the two chief desires of the colored youth during all the Reconstruction period were to hold office and study Latin, and that his life work for his race has been directed against these two evils.

I raise no question of the great value of these studies for those who go deeply into them. I acknowledge our inestimable debt to antiquity. I believe in humanistic culture, and in Latin and Greek, and would not raise the ghost of the classical question, but when I find that during the past ten years, in which our high school population has more than doubled, Latin has increased from 34% in 1890 to about 50% in 1900, while the proportion of those who go to college has decreased from 14% to 11%, I believe the educational waste and devastation, especially in view of the growing claims and growing neglect of modern subjects, are calamitous to the point of pathos.

Despite vigorous denials, I am convinced that the general complaint of imperfect command of the mother tongue by the high school youth is largely due to translation English, and I cite the report of the Havard entrance committee which challenges comparison for slovenliness and mutilation of good English style; and yet it is just at this stage, before the power to read without translating is required, that a recent writer says the chief benefit for the vernacular is required. Most of the high school Latinists do not go on to college. Beginnings that leave abandoned tracks in the brain because there is no relation to after life are evil. Moreover, it is a purely formal discipline with almost no content as now taught. Its practical relations to life, arts, literature, which are so magnified, are of the slightest. 34% of those who drop out of the high school do so from loss of interest and disenchantment, and this is mainly with the classics.

What keeps these studies alive? First, their traditional respectability. The high school was the Latin school, and children and parents feel they have launched on a higher stage in development when they are known to be students of Latin and perhaps algebra, not much better; especially is this true of Catholics. Moreover, Latin is often required in the first high

school year, and still more often strongly advised. Again, it is probably the easiest and cheapest of all subjects to teach. I would undertake to hire a hundred female Latin teachers at shorter notice and for less cost than in any other topic. Again, college requirements and possibilities are an enormous bribe, and our secondary education is losing its independence by this excessive interference and dominance from above; and, finally, one can teach Latin and break in the youthful mind with more authority and ease than in any other topic. The voice of its defenders is either hoarse or thin and piping with age. They are the rear-guard in the retreat of what was once a great army; but the grasp of this dead hand from the tombs of culture must be relaxed. When the public high school really fulfills the purpose and needs of those who pay for their support and really represent the greatest needs of the pupils, who attend, the Greek and Latin, will not perhaps vanish, but, in language the force of which amply excuses its bad form, will go away back and lie down.

II. How different when we turn from the too exclusive dominance of the past which has its stronghold in that most conservative of all institutions, perhaps the church not excepted, the old endowed college, to the training that fits for modern life in the present. Happily there is always, and now rapidly growing, a tendency in every modern race and nation to make its schools in its own image, and to measure their efficiency by how well they fit for the domestic, social, political, industrial present. It is the burden of the German Kaiser's complaint that the schools do not give him good soldiers, well-trained civil servants, competent administrators, intelligent and patriotic citizens. The ministry and still more the law show progressive inadequacy to the demands laid upon them. Mr. Kidd would test schools by the maximal social efficiency. Our own Dr. Harris measures them by the thoroughness with which they prepare for the life of State, church, school and home. We often imagine the enormous stimulus which would follow if educational requirements were as thoroughly enforced here for our 120,000 office holders as they are in Germany, where, to fill the lowest, one must have attained a certain State schooling, and each higher stage up through secondary and university grades opens the possibility of higher and higher government appointments. Business and trades have their requirements.

To interpret fitting for life to mean fitting for the best service in existing institutions in the present, although immeasurably better than fitting for the past, brings along with all its inspiration growing danger of narrowness. It is a Roman postulate dear to organizers and to those who love to impart that

prepared knowledge which the mature intellect selects as most useful. It tends to utilitarianism and is illiberal, whether one is fitting for a trade or for college. Standards are external and the question is—will it pay, whether in money or in passing examinations? Those who thus conceive education place the social organism first and subordinate the individual to his place in it. Citizenship bulks large compared with manhood and womanhood. Their philosophy of education, if they have one, is clear and convenient. Napoleon organized French education precisely on this plan that it might give him good officials and devoted citizens. Three-fourths of the students of the lycées look forward to snug little berths, and those that fail, after weary years of eating their hearts out, turn to independent careers from necessity as a last resort. An office, with badge, uniform, and permanence, is the French parent's ideal. The hopelessness of reforms in secondary education here is due to the excessive surveillance of the school to the needs of the social and political community. The French boy's spur to graduate early is that he may get in the line of promotion in office, which is always by seniority. Families have to be small, because every addition diminishes each child's share of the parent's property, and no girl and few boys can marry without a dowry. The French school boy thus foresees everything in his career at the start save only the date of his death, unless he fails of appointment and remains a candidate for starvation. In China the evils of this system are more fully developed. Demolins well says, "that system of education which attempts to adapt the young to existing institutions is bad and must fail." It tends to make young graduates tuft-hunters and place seekers, hoping to secure by influence soft berths instead of launching forth and carving out a career for themselves. They are always fitting for something, accumulating learning for the highest market, and the aroma of the trade school penetrates academic halls and causes premature, undue specialization.

III. But happily there is a third muse, the inspirations of which are now more and more felt, which teaches that the school should be the bud and nursery of the world that is to be; that is not made in the image of the past or the present, but that fits man for *the next stage of development in the race and nation.* In the present age of rapid transition and expansion of our race, the future and the ideal must be more dominant than ever before or we are dwarfed as a nation. This is a good age to be young in. It is the psychologic moment for new pedagogic aims, topics and methods, when the pulses of the old are quickened as with a *new adolescence.* Our children must not be trained merely to defend the old fortresses of civilization, but to carry

on offensive and defensive warfare in fields as yet unexplored. We must not only augment present, but projected efficiency. Although the method of fitting for the future is to overflow the needs of the present, just as outgrowing our old soul is the best way to get a new one in an age of moving equilibrium, we must remember that very much that we praise is deciduous; that the present is not a finality; is a germ and not a blossom, and still less a fruit; and that unless we are to be jingoes and chauvinists, after knowing the spirit of the age, we must quite as often oppose as serve it. The best things have not *happened yet*, and man is the tadpole of what he is to be. Youth is prophecy, for which its ideals are proverbially the best material. The battles of nations are sometimes psychologically won decades before on the school playgrounds. As Oxford feels and thinks, runs the old slogan, England thirty years later will act, for it is here that her history is pre-formed. Otherwise we turn out graduates like the man born just too late, who spent his after life trying to make up for the last quarter of an hour. Thus we teachers must always and especially to-day be dual personalities; on the one hand held to our primary organism and careful that no good in the past be lost, but on the other, smitten with a divine discontent with the present and its works and ways, trying to make our own lives more honest and exemplary and more hopeful and worth living because we give life to others, and worshipping the god of the present, but as an ex or emeritus deity when the god of the future shows his face.

What will the high school as the people's college be and do? I answer, if you will pardon summary phrases for the sake of brevity, first, it will teach *English* with the chief stress not upon language or form, but content, literature, history and science. It will not exclude the Bible, man's chief text-book in psychology, human nature, self knowledge, self reverence and self control; its prophecies the best school of the future; its appeal to faith as the substance of things hoped for; its poetry of nature, of morals, æsthetics, and of the true piety of the heart out of which are the issues of life; that follows the order of the soul's unfoldment through boyhood, adolescence, maturity and old age, for which one American university already gives credits on admission.

Secondly, the people's college will teach *oratory*. I have found fourteen widely used books on rhetoric which dilate on punctuation, paragraphing, the subtleties of style and good use, proof reading, correct and incorrect use of idioms, theories of poetic structure, narration, description, letter writing, and above all composition, which A. S. Hill's rhetoric says is the "main business of the teacher of English." Rhetoric is defined as "proper words in proper places," and the teacher must be

"all the time on the watch for errors," although not one student in ten thousand has anything to say; and rhetoric, it is said, does "not teach or imply thinking clearly." Now, the very word rhetoric means oratory. To Aristotle it meant giving truth the superiority which belongs to it by its nature. It means the art of influencing conduct with the truth set home by the living man. Rome knew no other education, and only in her decadence did rhetoric of our type arise, with its trifling artificial, sophistical way. Some of this, the English of the people's college should restore.

Third, the *drama* at its best is an incomparable school of life. The characters stand out clear and distinct; both they and the action is far easier to comprehend than in life where all is more complex. Dramatic reading suits youth, and very much can be done in a single high school year, even without a school theatre, if we would only abandon our senseless worship of notes. I visited a high school class which had spent some weeks on Othello, not one of whom yet knew how the story ended. The good drama is moral, because it rewards the good and punishes the villains. The lid of conventionality is taken off human nature, which is seen in its pure types, and a wholesome cartharsis against evil is applied. There is always conflict, collision and passion, which suits youth and makes the theatre often truer than history, teaching the power that makes for righteousness. The decay of the modern theatre from its high ideal is hardest on youth.

Another content study in English work should be the great *mediæval epics.* Quintilian said that such "contribute more to the unfoldment of students than all the treaties that all the rhetoricians ever wrote." High school boys have passed the age of chief interest in Homer's content, but it is the age of King Arthur, the Sangreal, Parsifal, Sir Galahad, Siegfried, and Lohengrin. This is the quarry where Chaucer, Shakespeare, Scott, Tennyson, Wagner, Ibsen, and scores of artists have found their inspiration. The theme of it all is chivalry and honor—the noblest thing in feudalism. It means reverence for womanhood, pity, valor, loyalty, courtesy, munificence, justice, obedience and heroism. Here grew the ideals of the gentleman, who was tender, generous, and helpful as well as brave. Morals and æsthetics have never been blended in a way which better fits the nature and needs of youth.

Thus the purpose of literature in the high school is supremely ethical, and the talk of art for art's sake here is degeneration. The receptive faculties are indefinitely ahead of the creative, hence to read and above all to hear, should take great precedence over composition, which comes hard and late, unless we wish to teach youth fluency with nothing that burns for speech

or is worth saying. Was this the ideal training of the speakers whose words are recorded in the thirty-one tons of printed debates that now are said to encumber the basement of the Massachusetts State House?

Next to English in the people's college should come science, which teaches love and knowledge of nature—the great mother of us all, and from which religion, art, and literature, as well as science have sprung. The sciences and topics chosen should be those that give largeness of view rather than precocious accuracy, and we should remember that man was a naturalist long before the laboratory. Youthful curiosity always strangely gravitates to frontier questions, where we are all children, and loves to play with great ideas—force, atoms, vast astronomic space, and geological time; is curious about remote lands, primitive people, strange animals and plants; the origins of things and perhaps their end and destiny. The high school has laid too great and early emphasis upon physics, which in the last few years, owing to college forcing and bad methods as I have elsewhere pointed out, has declined. First, high school science should always include the elements of *astronomy*. Natural curiosity about the heavens is now almost at its strongest and best, and the result is reverence, for "the undevout astronomer is mad." Very little celestial mathematics is needed, that came late; little calculation of eclipses or tides or minute work with noon marks, but a meaty body of facts about nebulæ; the number of stars; the distances of those that are most remote; their motions in systems very different from our own; collisions, comets, the dead planets; the sun and moon than which Plato and Aristotle knew no higher gods; the herology of astronomy which has had its saints and martyrs; its epochs, its culture history and astrology; and what the great astronomers are now doing.

Again *geology* should have a place. It takes children out of door; interests them in landscape; teaches them to understand it; glaciers and the ice age; the dynamic side of air, water, heat and life from the paleozoic age down; a little structural geology with the composition of rocks, ripple marks, beaches and shores; the history of the globe from its origin; something of cartography; with knowledge as well as love of the face of nature; large views of time and how the ascending orders of plants and animals arose. This is far harder to teach than chemistry and physics, and the nose cannot be held to the grindstone so steadily and securely. It requires a larger body of information and more real teaching.

Biology should certainly have a place. Not necessarily the technique of histology or the microscope; less about the cell; and more about natural history than nomenclature or classifi-

cation. The fertilizations of plants by insects and flowers opens a great opportunity for the skillful teacher to instill great moral lessons at an age when they are most needed, and with most unconsciousness. While migration, habitat, economic, and humane aspects; our knowledge of animal instinct; noxious and healthful plants, insects and animals; domestication; nests and homes; laws of growth in man and his general anatomy and physiology, should have place, with themes wisely chosen from anthropology.

These three are *real or substantial content* studies, while all language work and even mathematics are relatively formal. I would by no means exclude mathematics or modern languages, and especially *history*, on which much stress should be laid, but would give them perhaps a secondary and perhaps more elective place in a high school that is to be truly American.

The third group of topics in a secondary system that fits present nature and needs is distinctly *motor* or efferent, and involves the training of the muscles and the will, more or less inseparable at this age. I have no space here to describe how either the games or the manual training should be conducted in detail, but will only state its goal and ideal, which is efficiency. Here boys should be rated by what they can do. There must be the germs and educative extracts of just as many trades and industries as possible. On this practical side, no better ideal can be conceived than that of fitting young men for success in the newer and more unsettled parts of the country or in our new colonies. Horace Greeley's "Go West, young man," fits for life in a way almost ideal at adolescence. The younger sons of British nobility and the middle classes are beginning thus to be best trained. If we do not fit our youth for the geographical frontier, we should inspire them with the idea of beginning at the bottom, *so low they cannot sink lower, but where every change must be a rise*. They should take their places among younger and less trained men and trust to merit, with blood and iron enough in them to scorn sedentary ideals or the easiest way, and be, in Daudet's term, *struggle-forlifeurs*. We must not forget that *agriculture*, *mining*, *farming*, *trade and commerce* are the basis of all national life and in a sense everything else is dependent on and parasitic to these. The mighty engine of business absorbs more and more of our best talent and requires ever greater energy, larger knowledge, breadth of view, and, especially, penetration into the future. It dominates statesmanship and the professions; its prizes are the greatest. Thus trained our youth will plunge into strenuous life of achievement and every man-Jack of them will want to bring his whole self to bear where he can compete and meet the verdict of his peers. If he is truly American, he

will want to begin at the bottom, *because he has a fundamental instinct of thoroughness* and fundamentality, and the wise parent will at the critical moment cut the navel string and toss the young out into the current of life to sink or swim. The Abbotsholme boys found their school a rubbish heap, overgrown with weeds, and took pleasure for years in cleaning it up. The man who means railroading will begin as a trackman; as a recent book says, will want to peasantize himself and fall in love with the soil, machine grease, coal or cattle. If he is city bred, he will plunge far into the country; and if a country larrikin, he will go into the city and strive to work to the top. If he is philanthropic, he will go into slum work and its squalor; if he is to teach, he will teach anywhere, anything and anybody; or if he is to be a professor, he will fill half-a-dozen chairs at once in a monohypic college, because he loves independence and the satisfaction of doing.

How is this attained? In answer, I point to Hampton and some of the half or three-fourths industrial schools for the nation's Indian wards. Nowhere does education work such changes and improvements in so brief a space of time, and it is all because these youth *touch life.* Here we must find our norm; this is part of the people's college which we must improve on if we can. Personally, I am sometimes proud that I know how to do every kind of old-fashioned farm work; that in my German student days I took lessons so that I can bind, gild and cover a book; make a broom and a shoe complete, do a little glass blowing, plumbing and gold beating. But my conceit is humbled when I see young men, often with darker skins than mine, who can also make harnesses and saddles; are good blacksmiths; can apply a bandage and do various kinds of rope splicing; are amateur wheelwrights, carpenters and coast-guards; can print and do onyx work; understand ice-making, tinning and electrical machines; are at home in the dairy, poultry yard and garden; know the rudiments of forestry, bee-keeping, drainage and photography;—*this is liberal motor education, and I bow to my masters.* Their motor arrears are better educated than mine. They are armed *cap-a-pie* and come down solidly on all fours, wherever life plants them. If they have not been through the high school, it has gone through them which is better. They love to do hard things because they are hard if any one does. They are not barnacled by a culture that must be removed before they can win out in the race of life. This is a part of the liberal education of the future. It gives character and makes men who will make our future social and political institutions in their own image and inspire them with their own soul.

This kind of people's college, with these three elements—

English, science, motor training, and others added *ad libitum*, will say to the conservative endowed college of the East which, as is the case with three in New England, still gives no credits whatever in entrance examinations for any degree of proficiency in any of these things save English alone,—here are our graduates; we have done for them the best we could to realize all the possibilities of their golden age. We have given them a taste, both of life and of learning; if our graduates can now do better with you than with us, you *must* take them. *We high schools will now organize by ourselves;* we know this stage of youth best; we will make our certificate and diploma system the best possible; and if our graduates are articled to you upon our word of honor, that must suffice. We owe you a great debt for training our teachers and for stimulating us in the past. That debt we will now pay, but you must no longer prescribe our work or define our field any more than your own is prescribed by the professional school above. It may be a hard lesson at first as was yours to us, but it will be no less wholesome. Both in number and stimulus, your work will improve.

Finally, I am more and more persuaded that in its highest sense teaching ought to be a universal vocation. Guyau says that it should be the only education for women. I would add, and for men as well.

Statesmanship, religion, and science, all become precious according as they tend to the ever higher development of man. Education involves all other topics, and is that in which the education of all should culminate. The greatest of all reforms are educational reforms, and none others are complete without it. It is the best measure of progress, the best safeguard against relapse to the dark ages. The philosophy of education is the highest and only true and living philosophy. It is our chief *obligation to the future.* Its work consists in making an ideal environment for the development of the super-man that is to be, and while we must train the intellect, the will is far larger and the heart larger yet. Aristotle defined education as teaching men to fear aright; for Jesus it was to teach them to love aright, to fix the affections on the highest and wean them from the lowest. Some have conceived it as teaching men to be angry aright; not to fret at trifles, but to generate torrents of consuming wrath at great abuses, or to pity aright and shape the charity of the heart toward fit objects. In a single word, it is human evolution, and its goal is to so construct experience and knowledge as to advance growth. An age of growth like the present lays upon us new and larger opportunities and duties, and history waits to see if we can develop the wisdom and the vigor which our age demands. It wants not talk, but

deeds; not theories, but practical and in some respects radical reconstructions. If the best tendencies in our modern life really prevail there will sometime come a day when there will be no other serious fruitful thought truly worthy the best men that is not in a large sense about education.

WHAT IS RESEARCH IN A UNIVERSITY SENSE, AND HOW MAY IT BEST BE PROMOTED?[1]

By G. Stanley Hall.

This topic is of very great importance. Its decision very largely determines the nature and quality of true university work. It is a theme to which the Carnegie Fund will give great prominence, and perhaps it might be called central for the higher education which seeks to carry on offensive and defensive warfare in new fields instead of holding old forts and curricularizing second-hand knowledge. To have fully realized all that is involved in this question gives a new educational consciousness, and for a young man to have really grappled with the problem and wrought out ever so tiny a result is an experience of epoch making importance. In the student it tends to a new type of mind that is more independent and resourceful, and perhaps we might add American. Without it education is incomplete, and with it the young man feels that he can stand erect; is an authority and not an echo on some subject; minute though it be; and therefore ought to be more docile and respectful to experts in other fields.

No individual is large enough to treat this subject adequately, and he can at best only suggest, in view of his experience in his own department. Even were he able to formulate what is best in one, his norms would have to be modified for other departments.

All university men will doubtless agree that there is great abuse of the words research and investigation now, which are dragged down the academic grades even into the high school, where comparing a few references and doing over again work that has been done a thousand times—the teacher holding the key, a method which is wasteful and unnecessarily retards the pupil's advancement.

A candidate for the doctor's degree must get certain results in a certain time, and, therefore, can only very rarely attempt great heroic work with large risks and possibilities of indefinite delay. His voyages of discovery must be coasting voyages, and he cannot set out to find new continents. On the other

[1] Abstract of a paper presented at the Association of American Universities, of Chicago, February 26, 1902.

hand, the practice, still too prevalent in some places in Germany, of making the student a mere apprentice doing some trivial and highly specialized work to fit into the work of his professor, is liable to great abuses and loss to the student. It may be almost as bad, although in a very different way, as the public research in the school above referred to. An American student lately sued a professor in a German university because he claimed that the latter had taken his work as his own without acknowledgment, and the laws of intellectual property in this field still await formulation, although German traditions in my judgment are hard on the student.

It is there, too, that we find the opposite extreme. I know a professor who assigned a crude student a subject; planned and caused to be made expensive apparatus; sat by him an hour or more almost daily; found and even brought him references; reconstructed his tables; and in the end took them and wrote the article in German, the student's name only appearing but with a foot note stating in what university laboratory it was done.

Half the problem is to select a good topic. This may be less important in most fields than it is in psychology where interest as an expression of personality furnishes a motive power of very great value. Most men who desire to devote themselves to philosophic study come to university work with a high head pressure of curiosity and zest in certain directions. Their previous training has either sown or developed roots that can be grafted on to or utilized with great economy. Indeed, choice of topic sometimes is decisive for careers, and in a few rare cases I have had students who worked for months on subjects, good in themselves, whom I have advised to change for work along some very different line, and that with great gain. In my twenty years of experience I have learned to keep a book of problems, which is always at hand, where I set down such thoughts and references that occur. Some of my colleagues do the same, and we often confer about topics that seem and do not seem promising. Bibliographies are collected and often books bought, and occasionally apparatus and other data are collected in advance. We then have personal talks with each new man; find the direction of his tastes, reading, and plans; and then seek, as perhaps the most responsible of all our functions, to fit the man and the subject, not infrequently, however, approving a topic a man himself brings to us.

When this is done, the first thing expected of a student investigator is that he shall read and otherwise post himself on all that immediately bears upon his subject. He must know what has been done, neglect no important author; try to stand on the shoulders of others and not do over again what they

have done. He must criticise, evaluate, relate, and perhaps first of all make a concise digest of all the important work that precedes, whether or not it be later printed. The specialization, while not too narrow, must be acute enough to permit more or less mastery of the resources concerning it. This itself is often an important service. Here in my subject, the French theses are usually better than the German or American. This brings the young man to the frontier. When he has seen what has been done, he can form an idea of what remains to be done. It is a new experience for him to see the frontier of human knowledge anywhere, and is of itself an indispensable element in the higher education.

But mere scholarship is essentially selfish. Many minds that are noetic amass great acquisitions, perhaps to their saturation point, and regard themselves as educated because they know. Thus it is almost proverbial with many directors of research that graduates from certain colleges; where the training is of the best and not without some exceptions the valedictorian type of mind, here reach a limit which it is very hard to pass. The faculties have been in a pupillary state so long that they cannot get into independent action. They must have authorities, while those who know less are less impeded in the freedom of their mental action. It is very difficult to bring a merely learned man to doubt standard authorities or to proceed to demonstrate their errors, but the essential thing in a university thesis is that it must add some tiny contribution. It may be a very small brick to the great temple of human knowledge, but it must be an advance. It must penetrate a little into the vague horizon that separates the known from the unknown. This means an appeal to conative, active powers. I should be very far from over estimating the value of these contributions, but they should not be under estimated. They aggregate into a great and precious body of new knowledge. Of course it will occasionally happen that the young explorer's net comes in empty and the results of his protocol figure up contradictory conclusions, but even in this case he has distinctly smoothed a way for the next worker.

Perhaps we might divide the stages of university investigation into three. First, the *method* must be either invented or adapted to the problem. There are conditions to be controlled; principles of selection must be determined; negative instances rejected; very often machinery must be devised and made; ways of constructing curves must be discussed; graphic methods of record as well as presentation wrought out. Method, as was said of old, is like the roof overhead in tunneling a sand bank, it keeps off the débris and permits the work to go on beneath. Just as the apparatus for research will probably not

be found in the cabinet to illustrate stated courses of lectures, so the mechanism of treating the data will not be laid down in any logic or perhaps not completely found in any of the standard methods dealing with and distributing statistics. The method must not be too precise and accurate. Pedants of method often need to be reminded of Aristotle's remark, that precision should not be more exact than the nature of the subject admits of. I have noticed that some investigators reach their acme of satisfaction when their formulæ are made; their machinery works well and this mechanical and preparatory stage is complete; and it is true that this is often all conditioning, but it is essentially preliminary.

Second, there must be *data collected;* experiments made and noted; facts gathered; protocol books filled; instances and experiments multiplied; and the basis of induction made broad and deep. This is no less essential to safeguard against theorizing on insufficient premises. In some lines of work this is relatively easy, so that many minds here fall into doldrums. They mount sections, multiply slides and tabulate results for weeks and months in a mechanical way, deferring the careful scrutiny that should be incessant, and often thus waste effort by the instinct of the ant that gathers, neglecting to add the functions not only of the spider but of the bee that mixes its own secretions with what it gathers. The counters, weighers, measurers and tabulators in my experience are especially common among novices in experimental and inductive work. They are over superstitious about their new methods, feeling that they will grind out results of themselves. Often as the spring begins and the necessity for having finished the thesis looms up, it requires drastic methods to overcome this stagnation and arouse to the next stage of work, which is most difficult and important. There seems to be a perpetual delusion here that disguises the difficulties and time ahead. Some, alas, are competent only here. The professor makes the methods and helps them over the initial difficulties. In this second stage of amassing, they seem competent because the work is of a more routine nature, but they never can be brought to cross the real Rubicon of interpreting their results. True, such men perhaps should not be put to research, but the professor must make up his mind in every case that he may have to finish any student's work, and that possibly he has so little conception of what research means that he will never realize that he has done nothing but mechanically repeat tests in an imitative way.

The third and main stage is to *think it all out;* to apply a rigorous, philosophic method; to reason logically on the objective facts; to find their unity; to determine what is central

and what is unimportant; to relate and determine the place and bearings of all; and find whether the accumulations are mere agglomerations or have a meaning and a value for science. It is really this that tests the metal of men,—their acuteness of thought, their originality, their power of imagination and the construction of hypotheses, the readiness to catch implications and suggestions of all related facts in their ken;—this requires a well organized brain, and as it were knits its different elements together into a higher unity. Most of us professors fail here. How often we have the experience of finding that some one else has extracted great truths from facts perfectly familiar to us, because he had the seeing eye and the divining mind. It was said of Helmholtz that almost his every serious thought in his maturity added to the world's sum of knowledge. This is perhaps the highest compliment that could be paid a man of science, and from this standpoint how incompetent most of us are to conduct research as it should be, and how new the standards of measuring men should be, and how different the faculties here required from those which successfully lead or drive platoons of collegians through textbooks.

My theme is treated, I know, in a way wretchedly inadequate, but a few rather incidental remarks I must add. Young men are not overburdened with gratitude. They have been aided all their lives, and often when a professor has done most of the work, the student alludes to him in his thesis only with formal and perhaps scant recognition. This condition, I believe, is a fact of nature which we must accept. Our place is to serve, and if there is the least jealousy or envy of our students; nay more, there must be no reluctance to give them all our best ideas *without any reserve* or without the credit which should go with them; that we must do not only with entire, but with rejoicing self-abnegation. Wherever there is doubt as to the authorship of ideas, the student should have every benefit of it, provided only that it is always stated where and with whom his work was done. I have in mind several cases of young men who have written books a year or more after they left their professor, most of the best ideas of which have stood for years in his lecture notes with no acknowledgment; but the least symptom, objective or even subjective, of reclamation here, I believe ungenerous and opposed to the interests of the young, which we all must serve, and to the best interests of university work.

Having published a successful piece of research, a young man is almost a new creature. He is a citizen of a higher academic community, and has to set himself a higher standard to live up to. He must consider himself and be considered an

expert, however narrow the field, and entitled to an opinion which, whether in the learned society, the conference of manufacturers about processes, committee rooms of legislators, in the councils of physicians, entitles him to a hearing. He is thus a member of the *university invisible*, not made with hands, and not a guest or servant or an alien in it. He has a better idea of what intellectual freedom means and he has had some experience with real conviction, which the masses know not of.

Thus he must print and at once. This is not only a test of the institution that it may be known to others what the degree really means, but the baptism of printer's ink gives enhanced self respect. He has nailed up his theses and must defend them. These must also be freely exchanged and circulated, so that they can be available to all who wish them. They must be concise and not suffer from inflation or over dilution. Most young men need discipline in learning to talk with the rifle rather than with the shot gun or water hose. If there are any historical or other topics that require length, there should be means to that end. It is pathetic to hear representatives of wealthy institutions, which charge large fees and claim to do university work, pleading poverty when it comes to printing theses, and either refusing investigators in other institutions, who wish to see manuscript copies deposited in their libraries, or making them wait for each other to do so.

Research from its very nature cannot be very much organized or mechanized. All committees and rules and uniformity are here impertinent, if not injurious and impossible. The freedom of investigation blows where it listeth. It often needs financial resources, but should never be controlled from without. Indeed, I am not clear that it is entirely compatible with administrative perfection and I fear that the over organization, from which so many things suffer in this country, is bad for it. When a professor becomes the director of a great building; must keep it in order and look after accounts; and direct various attendants, he is almost certain to be weakened as an investigator. Victor Meyer would have all chemical laboratories built so cheaply that they could be renewed every ten years, that they might be plastic to the exigencies of research to their very boards, brick and mortar. Great librarians have been eminent in history or literature, but it is in spite rather than because of their vast knowledge and responsibility for books.

Finally, among the most important of all instrumentalities in research in at least one department, I believe to be the frequent, perhaps weekly, pooling of results by a choice body of men for each other's benefit. Let one or two men in a company of perhaps twenty read once a week what they have done

that each may know what all the others are engaged upon and have the full advantage of following all their work and processes, and it will be found that the discussions and criticism which follow will be of great fruitfulness for each investigator as well as for others. Sometimes new references, names or other sources of information are brought to light, but more frequently the subject is seasoned and pruned by criticism and very often fructified by new ideas in this process. The teacher, who has successfully tried this plan for a term of years, can truthfully say that, while he has learned much from his masters, he has learned more from his own students. Here, too, by the ear and mouth method and by conversation that sharpens the minds of friends, he may perhaps have found one of his greatest pleasures in life and have been stimulated to render his own greatest aid.

SOME SOCIAL ASPECTS OF EDUCATION.[1]

By G. Stanley Hall.

Man has domesticated himself by civilization because, like nearly all the other seven score species that have been tamed, he is by nature gregarious. He became a political animal, because long before he was a social being—a socius. Prolonged solitude tends toward imbecility, especially in the young. All the isolation cases, whether by accident or design, and the solitary cell teaches man's dependence upon man. The defects of the blind and the deaf are largely due to restriction in the surface of contact with their fellow beings.

In view of this, sociology—a new and as yet very crude science, but full of vast problems for the future—now insists that education is almost solely a social question, and all its work may be described as fitting for society and civic life. Its grave indictment against the school may be roughly and perhaps a little strongly characterized as follows:

1. It shuts the child up away from the home, nature and the street where he can truly live, and there enforces an artificial and sessile life, using few muscles save those that wag the tongue and now more and more the pen; inverting nature's order with insufficient air and perhaps light; condemning the eye to monotonous zigzag; and giving rise to booksful of school bred diseases.

2. The kindergarten, primary, grammar, high school, college, university, technical and professional grades are not well articulated, so that there is waste in passing from one to the other. Each type of institution is too independent of the others, and there are both gaps and overlappings.

3. Successive grades in the same institution are too isolated, one from the other. Promotion methods are clumsy and mechanical. Pupils lack association with older children which they had in the ungraded system, where the older were of great help to the younger.

4. The curriculum is isolated from life, sometimes dealing with ancient subject matter, useless in the modern world, and perpetuating old traditional methods long after they are super-

[1]Address at the annual meeting of the Harvard Teacher's Union, March, 1902.

seded by the progress of business, science and letters, and being thus always belated by a greater or less interval.

5. Its persistent gravity is toward form instead of content, at least three-fourths of the instruction in the three r's being purely vacuous form; language tending to take precedence of meaning, method of substance, and mechanism of life.

6. The curriculum is prescribed with wooden uniformity. Under the system of close supervision, the teacher has no initiative to bring to bear his or her own personality, but is the inspector's assistant.

7. The science taught is bookish, abstract, memorized, and not applied to life.

8. The pupil is isolated even from his mates and not allowed to help them. The natural stimulus of emulation, which is such a power in the world, is checked.

9. The branches are isolated and neither correlated with each other nor co-ordinated with the nascent stages of the growing mind.

10. Lastly we isolate by eliminating from our educational system topics on which there is difference of opinion. Religion, the dearest thing and most central to many lives, the politics of questions of party issues: slavery, socialism, evolution, labor organizations and many more, and as these are true and often burning questions the school is devitualized. This results in some tendency to focus teaching on things the community cares nothing for.

If this extreme characterization were correct, the school would be a ghastly, artificial, desiccated thing indeed, made up of pretences and make-believes. It would distinctly disqualify for life and maim and handicap its victims. Children would not live in any true sense in school, because nothing would truly need to be done. They would be exotics away from their natural habitat and little effected by the personality of the teacher, even principals being more and more administrative officers withdrawn from the pupils, and the more they were fitted for school the more they would be unfitted for life. Exaggerated as this view is, there are always tendencies in education toward making school life a thing apart, peculiar and formal.

But, happily, there are countervailing and opposite tendencies always more or less active, and to roughly estimate and list some of these is my purpose to-day.

To begin with, language itself is in its nature and origin a purely social organism. It is primarily to express one's own ideas. The child should never be compelled to say anything unless he has something to say. Speech is never for its own sake, and should never be studied apart from content by the

young. For them the spoken should have constant precedence over written words. The habit of utterance without having something that presses for expression undermines the foundations of honesty between man and man, and loosens the social bond. Better yea and nay than the verbal inflation and verbigeration with which we seek to endow those who have nothing to say, and whose mental vacuity if left undisguised might be a wholesome spur. Language does its social function best in free conversation between pupils and teacher, provided, only, the topics and methods are well chosen and the teacher's mind is full to overflowing. Nothing so sharpens the mind and quickens thought as seeking and finding facts and truths in common. Wherever children speak and especially write without a very real and urgent content, they are demoralized and their education is anti-social.

Again, young children are imitative to a degree that neither they nor teachers have until lately dreamed of. Some extreme psychologists now hold that everything, even origination and invention, is a product of imitation. It works unconsciously and almost hypnotically. A late writer collected a list of scores of fads that spread through a class, school and the youthful community. This apish faculty pitches upon accent, gait, manner, dress, mode of speech, all the automatisms, habits and morale, like infection, and is often most potent without a word of instruction or knowledge. Fashions, beliefs and conduct are conveyed by contagion. The teacher, the older and especially admired pupils, and natural leaders can be utilized as radiators of moral and social influence in innumerable ways by a tactful teacher; and if he or she be a favorite, there is almost nothing about his or her own personality which is not thus infectious. The same to some extent is true of the influence of heroes in history and typical characters in literature. Great and golden deeds often seem best taught with no moral or obligation, because the child's intuitions are deeper and stronger than its consciousness. Every teacher who would be instructed in this theme now has happily at his disposal a most suggestive, compact and new body of psychological literature.

The school itself should inspire *esprit du corps*. Nothing is stronger, especially in boys, than the gang spirit which in the early teens underlies all their spontaneous organizations, predatory, athletic and even cultural. All scope should be given every harmless expression of this instinct. The young are teaching others social morality thus far faster than the school can do. This very spirit, a little enlarged and matured, has often become love and pride of the school as such, and expresses itself in decoration of the room, improvement of the grounds, and even care of the building. Inter-school competi-

tions and victories widen the social purview. At Abbotsholme generations of students have made many acres of rubbish, dumping and underbrush blossom like a garden; have trained other acres for playgrounds; erected band stands, sheds and seats for games, built bird and animal houses; and made the school the center of veritable home instincts.

Again, self government is no longer in the experimental stage, but has been demonstrated in many a sphere of school life and conduct. Not only order in the school-room, attendance, excuses, points of honor, dress, regimen, etc., have been safely left to pupils who have thus been trained to responsibility, but in boarding schools we have many an example of purely spontaneous and elaborate social organization of the tribe and clan spirit and stage, recapitulating human evolution and instituting and defining property rights, with courts and penalties, reforming abuses, developing little industries, systems of exchange and trade, and even devising currency. (See, *e. g.*, Johnson's Rudimentary Society, Sheldon's Student Life, The George Junior Republic, my Story of a Sandpile, etc.).

Again, the isolation between the home and the school can be ameliorated, and here we have many scattered experiments which need to be carefully collected that we may profit by successful experiments. The school should be made in the image of the home, should be the home projected and enlarged just as the teaching instinct at its best is at bottom identical with the parental. Probably only in the lower classes are the children really overburdened by home duties, and in the community as a whole they should do far more, and it is difficult to say whether home or school would be most helped by closer rapport with the other. In this country we have in several places successful mother's meetings—perhaps fortnightly at the close of the school session in the building. Here school lunches, cooking, economic marketing, the home life, mending, and questions of discipline and reading have been discussed with great profit. Even ignorant mothers have been attracted and even provoked to talk when the topics touched closely upon their own life and that of their children. Fathers' meetings, since the old day of the district school and the semi-annual or quarterly meetings, are less known. But we have many associations of parents who listen to lectures or hold discussions on the school tax or vote, on school buildings and sites, hygiene, curriculum, etc. In some German cities, there are local committees of perhaps several score of representative parents, who are organized and take active interest in the local and external questions of education. Although this work is one of supererogation on the part of teachers, already overburdened, its results are always spoken of with enthusiasm.

There are many forms of such special co-operation between home and school from that of Detroit to that of Brookline.

The home should be served by every child, who should feel himself a useful and integral member of it with duties. Every girl should cook, sew, clean, polish, and perhaps wash; have something to do with flowers; develop some domestic taste and pride in place of the shame so often felt by high school girls for their lowly home, for which their education so often breeds calamitous distaste. They should be reminded that too soft hands in the young suggest a soft brain; that hand and brain both grow and are educated together. The kitchen is the heart of the home; its industries, intelligently understood, are among the most educational of all possible influences; and to overcome the alienation school often breeds for home life in the modern American girl, is one of our most serious problems.

Boys, too, should have chores with coal, wood, fire, the yard, snow, errands to market, repairs, pets, and especially in vacation should be taken up into the industrial or social life. While cleanliness is a virtue, never over praised, to get dirty is often a duty, the recovery of which gives a new access of self respect. We teach the domestic life of the ancient Greeks and Romans and perhaps our Saxon forefathers, but neglect our own. The struggle of middle class parents to exempt their children from home work is often pathetic. They study Sloyd which was originally nothing but the curricularization of the home industries of Swedish peasants; study attenuated and isolated manual and industrial methods of training which are only the home duties of children of some other age or place. We teach the Indian to make butter, harnesses, carpentry, and blacksmithing despite the fact that a better curriculum for him could be devised in making bows and arrows, pottery, bead and basket work, canoes, moccasins, and other indigenous arts, which are being lost. The home is the mother of the school which has almost disowned it. They are often rivals, while the whole duty of the true teacher is only to perform certain special, parental functions.

Again, play mirrors and epitomizes life. The play world reproduces in rudimentary form the serious business of both primitive and modern man. The doll is far less often a baby than an adult reduced to the dimensions of the child's ideas. On the Groos theory play is practice of what children will do when they are grownups, and on what I believe a larger and truer theory, it especially supplements and complements future life by exercising faculties that will become useless, but must be exercised like the tadpole's tail if they are to vanish and stimulate the growth of higher powers that take their place. The child is whole only when he plays, and most plays are a

fore-school for the social instincts. The rules of the game teach forbearance, justice, respect for others, and most of the social virtues. Thus a curriculum of plays and games can develop almost every good quality, and whenever it can be turned on in the school-room brings into it the breezy, real life of out of doors. Hence playgrounds filled full of every practical utilization should be integral part of every school. Sheds for rainy weather, gymnasium apparatus, toys for little children, and the instruments and incentives of as many organized sports as possible should be inseparable from every school. Thus children educate themselves and each other, and the yard is a school of human nature. The ideal school will always be in the country. The leaders of English history developed their best qualities proverbially on the playgrounds of Eton, Harrow, Rugby and the rest. There should be time and if possible supervision, and alas! even incentive is sometimes necessary.

Nature study has social utilizations in individual plots for plants and flowers, in bee keeping, elementary nurseries and forestry, census of birds and their nests, insects and their economic and biological aspects. The toad, frog, spider, ant, mouse, as well as fruits, are fraught with lessons and centers of interest for all agricultural life. Even pests teach their social lessons. Dr. Hodge's work is, I believe, to be of great and sudden usefulness not only in the knowledge of nature, but of society. In a country town a few summers since, I gathered about thirty young teachers with specialists;—one who taught them the flora of the region; another its fauna; another its geology —soils and minerals; another local history; another the stars; another the old industries—spinning, weaving, dyeing, palm leaf hat making, something of tannery and other of the more than three score indigenous industries fifty years ago. But the sad thing was that hardly a teacher in the district schools or even the academy knew anything of the natural environment. The children were taught the almost purely formal three r's and the usual Latin, algebra, ancient history, with hardly a single point of contact with the world and its occupations in which most of them were to spend their lives. They knew something of the battles and the presidents, but nothing of their own town meeting—the germ of our institutions, nor of the ways in which their grandparents lived. So far we have sought in vain for a teacher within our means who could tell them about what was nearest to them, while scores of Latinists, algebraists and philologists were on the list of applicants. Was what they were getting, education? Did it help or positively hinder them in their life work?

Some civic instruction before the close of the grammar school should be universal. This, some have begun by grafting on

to boys an interest in fires and explaining insurance and teaching heroism from the brave deeds of the fire laddies. Others have utilized spontaneous and already well developed interest in the police for lessons on crime, drunkenness, the function of the prison, penalties for various offences, and duty in general, and have spun a little system of practical ethics about this very vital center. The school itself is a convenient point of departure for the study of taxation, organization, the duties of school boards, the processes and material of building, and have evolved lessons of hygiene, punctuality, order and the other school duties of children which may themselves be lessons in sociology. All children are interested in the blind, the deaf, criminals, idiots and perhaps the insane. These themes have been wrought up into wholesome lessons on charities, and in some places visits are made to some of these institutions, and the sympathies of the children thereby widened and their appreciation of the great function of human benevolence deepened and increased. Elections afford opportunities for instruction in suffrage, its technique, functions, history, and the advantages of democratic and republican forms of government. Sometimes groups of children are taken to the city hall by appointment, or itineraries to the public institutions are devised which leave indelible lessons.

Industries are a vast theme. In a material sense agriculture, manufacture and commerce are the central things in the prosperity of a nation or race to which everything else—the professions, literature, etc., are subordinated and ancillary. What we call business is a vast, booming, humming machine has its own laws only partly determinable by the will of man and which economic science has not yet compassed. It is the great modern school of life, for the sake of which we legislate; the moralist and preacher try to keep it pure and honest, the lawyer is the watchdog of its methods; national expansion, migration and immigration are often in its interests, and all its institutions flourish or decline with its welfare. Wherever we can turn on its interests to the school machinery, it is given vast increase of motive power. The teacher's great opportunity to-day is to select the most educative elements and curricularize them in order to develop the motor, efferent power that do, make and produce.

Now industry is more and more specialized, and as differentiation is proportionate to intergration, knowledge of any form of it requires much knowledge of others as well as of exchange, trade and commerce. In the schools that really represent the people a great future opens here in giving to our industrial and manual training a far larger scope, better methods, more unity. True education is mainly by activity,

and doing is psycho-physiologically far higher than mere knowing. I have often expressed some personal pride, if not conceit, that I was taught and am still able to chop, hoe, do everything about the dairy, and most other old-fashioned farm work, have several recent summers personally put in good drains and ditches, washed and sheared sheep, harvested, can make maple-sugar, lye, soap, and that I took lessons years ago in Germany in book-binding, shoe-making, soldering, glass-blowing, and gold-beating. But my conceit is humbled when I see what we are teaching our negroes and Indians in gardening, blacksmithing, the care of cattle, harness and saddle-making, carpentering and wheelwrighting, forestry, drainage, bridge and road making, milling, running electric machines, tinning, ice-making, onyx-work, running engines, painting and printing, cooking, laundry and housework, I bow low with humility to my superiors. These men and women, often of darker hue, are getting the quintessence of the organized experience of the race faster and better than I or my children. Indeed, for actual progress up the scale of improvement I know no institution that can show anything to compare with the growth year by year of men and women in the Hampton, Carlisle, Phœnix, and other of our best industrial schools that teach knowing by doing. Those whom they turn out are real struggleforlifeurs in Daudet's phrase. They can succeed anywhere. Wherever Fate throws them, they come down on all fours armed *cap-a-pie*. Their spirit is the best. Instead of seeking soft easy births, they wish to go to the frontier, the colonies, or down to the slums, and begin with those far less equipped, so low that every possible change must be a rise. Their muscles, their will, their courage, may be held up to our high school and college graduates as models for imitation. The rich child is necessarily isolated from the world in many ways which the poor child knows not of, and knows far better how the half that is other to him lives. These are not trade schools, but liberal schools of motor education. The catalogue of one says doing and knowing are Siamese twins with equal hours. Another gives but two hours a day to study because it assumes that the hand will educate the brain more surely than the brain the hand. But both recognize that neither linguistic work nor memory so develop neurons in the brain or are so near to it physiologically as the hand, and that where this is neglected, man flouts the great advantage that came to him with the upright position which freed it from the necessities of locomotion for the uses of the mind. Industry is inseparable from geography and direct incentive to it, for all that is grown or made must find a market. It is interested in prices and all other factors and changes. The laws that regulate exports, tariffs,

and indeed the whole financial and industrial organism is opened by that most potent of keys,—practical interest.

Very interesting and suggestive is the special solution of the social question attempted by Professor Dewey's school where the children recapitulate the industrial history of man by cooking, spinning, weaving, dyeing, drawing, and so forth. Of course, reproducing ancient stages of man's development takes the child into a simpler world which must, however, be largely constructed by imagination which is so vivid in the young. Of course, too, the child repeats the history of the race even in his bodily and mental development, but progress is always shortening and even eliminating the earlier stages, and we have yet, so far as I can see, no norm by which to determine what stages should be shortened or prolonged and intensified, or where the dangers of arrest in the early stages are surest avoided and all the advantages of repetition secured. Life is too short to reproduce all the past, while the present, too, has more problems than any individual can master; so while I visit and study every syllable concerning this most fascinating experiment, my own judgment is still suspended. One thing is sure, however, even if it be all proven wrong, that of itself is a precious demonstration, but the school is in an experimental stage, and its final solutions all will perhaps unhesitatingly applaud. My chief scruple is whether or not the receptive powers of children get that relative predominance which the very nature of childhood requires, for active as it is, its observing, listening, afferent faculties are still greater.

Many a consensus has lately been made of what children plan to do and be in the world. Their choice of vocation undergoes continuous and quite regular evolution. With boys the hunter, trapper stage passes to that of the policeman, soldier, father's vocation, that of the most eminent man in town; the girls so many of whom would be milliners at thirteen, and clerks, stenographers, and so forth at fifteen in regular order. Some account should be taken of these vocational ideals and preferences in their season, for a period of predominating interest in anything can be grieved or sinned away like the Holy Spirit, and the results are always wasteful if not tragic.

Most of what I have thus far said applies to pre-adolescent stages or at the latest to the grammar school period. How different our problem when this great transformation comes. Its changes are mainly sacred to individuality, to the development of which and not to the adjustment to any existing institutions the whole endeavor of the teacher should be addressed. If the grammar schools ought predominately to fit for existing institutions the high school and college should be made in the image not of the present but of the future. These are nests of

institutions that are to be. Personality must now be unfolded to its uttermost with the assurance that State, industry, family, church, will be transformed and made to fit it and not *vice versa*. Now nature gives rather suddenly in our day and race a great augmentation of the self which takes its control into its own hands. Not authority, but persuasion, influence, interest now rule. All the adult world to which children are relatively indifferent is felt as never before. The school is the embryo of future society which we cannot forecast, and to merely train for the present is to dwarf talent and originality. The social instinct is now trained by friendships which can never be deep and lasting before. Spontaneous and relatively permanent organizations for amusement and culture are formed. It is the age of religious involution or duty to self, parents, mates, the world is realized. Sentiment is deepened. Art and music find new appreciation. Competition flames up with new intensity. Self-consciousness often seeks to reconstruct manners and is seen in countless affectations. Every serious boy in the teens is tense with the desire to know how he is to rank in the world, whether as inferior or superior to others. He desires to do, be and make of himself the most possible. If there are special aptitudes they appear now. At this stage youth must not be trained to merely defend the old forts, institutional or cultural, but to advance to new fields armed with all the arts of aggressive warfare both offensive and defensive. Thus to feed the new centers of all-sided interest should be our end, and the wise teacher will follow and serve more often than lead or command. All the social instincts are now immensely reinforced. The queries, too often unspoken, are numberless, the hunger for real knowledge, for content is at its strongest and best, and if we believe that man is greater than his institutions, we shall focus our endeavors upon satisfying the strongest curiosities. Too soon this golden spring-time of growth will be past and the life of service begun. At the best individuation which culminates now will be checked by genesis, so that the best social education now is to develop the fullest possible maturity of the individual in as many directions as possible.

Feeding the soul now means a great abundance of information with which the whole atmosphere should be charged. Perhaps the best distinctly social training is that which delicately centers on motherhood and its duties for girls and fatherhood for boys. This makes for control and the true altruism which now first takes deep hold of the soul. Moral and physical regimen, the control of passion is the one chief duty of this stage, and if well performed nature will do most of the rest till we learn better what to do. Religion, ethics, science, and even art are largely valuable just as they serve this end. It is

where this fails that we have apathy and selfishness. The hypertrophied egoes which can no longer enjoy. Even mere scholarship that knows and does no special service to learning is selfish, anti-social. Mere acquisition of any kind should be no longer the goal.

Finally, true social education will revise some most established usages. It will insist in its higher academic grades upon a good deal of technical and applied science before the expert consecrates himself to pure science. It will insist on considerable knowledge of sociology, experience in slumming and rescue work before life is devoted to the pastoral office. It will demand more historical perspective for the pursuit of law and medicine and for the specialist in any branch that the expert may know the collective toil and labor which produced the fruits he enjoys. It will require more knowledge of the general laws of life and of health before training in the cure of disease; and, in general, we shall restore in our academic life the spirit as well as the great old name of the humanities. In this day of great national expansion, when the limits of the world are mostly known, co-operation will slowly gain upon competition, and sympathy rather than antagonism will be the method of the gentleman and the scholar.

ADOLESCENTS AND HIGH SCHOOL ENGLISH, LATIN, AND ALGEBRA.[1]

By G. Stanley Hall.

The remarkable advances made within the last decade or two in our knowledge of adolescence are marking an epoch and are destined to radically modify our ideas of secondary and, to some extent, higher education, and in the near future to revolutionize some of the tendencies now dominant. The teens are the age of acquisition of the later and more precious stages of human development, because in them man is more radically differentiated from animals. It is precisely these, unfortunately, that may be most easily aborted in their nascent periods by a little overwork, worry, exposure, deficient food, and other causes which would not affect the earlier stages of growth. Before this period children need much drill, habituation, authority, and memory work; but as adolescence slowly supervenes and boyhood is molted, the method of freedom and appeal to interest and spontaneity should be increased. Now the best things are springing up in the human soul. If there is any genius or talent, enthusiasm for work or for ideals, they begin now to be felt. It is spring in the soul. If the race is ever to advance, it will not be by increasing average longevity or directly by enriching the last stages of life, but by prolonging this period of development so that youth shall not die out and its zest and enthusiasm grow pale.

This brings me to the single point in this wide field of which I would speak to-day. There are two standpoints from which everything can be regarded—the logical and the genetic. One is the method of system, and the other that of evolution. One develops; the other organizes. One is more dominant in the biological and the other in the physical sciences and mathematics. One looks more at form; the other at content. In studying the soul one seeks to explore and schematize the adult mind; the other cross-sections this method and considers the psychic functions of animals, children, savages, and defectives as well. The man who is most developed himself, or in whom severe illness or conversion in a too drastic, literal sense has made some break with his past life, is most liable,

[1] Read before N. E. Asso. of College and High School Teachers.

without special studies, to forget that growth is the one and only test of values in the world of education in its largest sense, and that even church, home, and State, as well as school, are to be ultimately measured only by their making an environment in which man can attain an ever higher and more complete maturity. The great organizers in education, therefore, are constitutionally in danger of distrusting youth and their endeavors to be one-sidedly scholiocentric; while those whose watchword is development, and who believe in nature and seek first of all to have the warrant of her great push upward behind them are paidocentric, and hold that everything in the school—buildings, topics, and methods—were made for youth, and not *vice versa*. Logic has no place for interest, and deems it, if not merely a convenient expedient, something not essential and organic; perhaps dispraises information topics or subjects, or thinks all alike educational. The latter regards knowledge not as an end, but as a means to larger living; would conserve the child in the man; holds that studies in which there is no pleasure can have only limited profit; and appeals for its sanctions to the biographies of the great leaders in the world of learning. The logical standpoint persists in the methods of drill and training proper for childhood and the stage of apprenticeship to authority; wishes to cultivate exactness and accuracy before its time; and has had much to do with the sad fact that the American high school, despite the rare opportunity that has come to it above all European systems, that its beginning marks the dawn of this critical age, has remained more oblivious and unresponsive to its nature and needs than perhaps any other institution ever devised for it. We teach Latin, but ignore the fact that in ancient Rome all educational lines converge to the youth of seventeen and diverged from him. Our Greek scholars have not profited from the fact that no race ever knew youth so well, loved and idealized it so strongly, and kept their own life and history the best illustration of the eternally youthful in art, letters, and institutions. We teach the history of education and pedagogy, but forget the fact that it began at this period, when nature almost reduces the psychic life back to infancy and then widens upward toward the university and downward toward the kindergarten, in almost exact proportion, as civilization advances. We place perhaps the most trying of examinations, of a kind that cultivate the memory pouches, just at that age when teaching should be suggestive, so as to sink deep, as if trying to cultivate the power of ruminence instead of the ulterior processes of assimilation. We make too small appeal to the imagination at the age when every youth should be an idealist, if his soul is not made sterile, and incessantly analyze to secure

so-called formal discipline, just as Aristotle says the mind totalizes, wants the largest wholes and greatest principles, forgetting that mental, like dynamic energy, must be developed over a large surface in order to be applied at a small one, and that the prime thing at this stage is to train character, to awaken, to graft interests, to give range and loftiness of sentiment and of view, and that the Greek teacher of youth chose to be called an inspirer.

From the genetic standpoint, let us now briefly consider a few high school topics.

Physics, *e. g.*, was selected as one of the representative sciences, and has had the benefit of the best fostering care of colleges, both in the prominence it has had among entrance requirements and the rare care and ability with which its subject-matter has been wrought over in text-books and courses, so that everything that expert knowledge and the authority that works from above downward, reinforced by the advocates of unity, system, and enrichment could do for it has been done. Yet in the country at large, from the year 1893-4, following that of the publication of the Committee of Ten, when 25.29 per cent. of all the secondary students in public high schools in the country were studying it, it has steadily declined to 20.20 per cent. in 1898-9. Nearly half this number is girls. The relatively progressive neglect of physics in the high schools is also widespread among colleges, which President Eliot notes with sadness in his report, but does not explain. As this subject was selected as a typical science to lead the movement for introducing others, this result is especially deplorable for the new education in science, and has given the advocates of Latin, mathematics and modern languages, all of which have increased in the same period, grounds against the introduction of science in high schools, which some of them have not been slow to use.

From questionnaire and other data it seems to me plain and certain that the trouble with physics is simply that it has failed to take account of the nature, needs, and interests of high school boys and girls. The text-books in physics are essentially quantitative and require great exactness, and are largely devoted to precise measurements. The topics are admirably chosen, and in their logical sequence perhaps the best from the logical standpoint, and they are such models of condensation and enrichment that it seems to the organizer almost perversion that our youth pass it by. But boys of this age want more dynamic physics. Like Maxwell, when a boy, they are interested chiefly in the "go" of things; those with aptitudes for physics want and need wide acquaintance first with tops, kites, and other physical toys, then with clocks, dynamos, engines,

machinery, with some experience in running it and using tools, in looking into, taking apart and putting together almost anything that will go. Moreover, exactness comes relatively late in the development of the youthful mind as it did in that of the race, long after interest in general principles and especially forces.

The normal boy in the middle teens is often a walking interrogation point about ether, atoms, nature of electricity, X-rays, motors of many kinds, with a special gravity of mind toward frontier questions where the great masters know as little as he. He would like to see hundreds of demonstrative experiments made in physics and the liberty to repeat most of them himself, without being bothered about mathematics. Moreover, he has a veritable passion for brief stories of great men. The heroology of the history of physics, if rightly applied, might generate a momentum of interest that would even take him through the modern course. He is essentially in the popular science age. He wants great wholes, facts in profusion, and very few formulæ. If he has had the very rare good fortune to have all this in the home environment of perhaps the son of a professor of physics beforehand, this course would be well. But as it is interest wanes, not so much because the work is difficult, as because to a mind scantily furnished it seems dry and formal. If the course is taken to the end, there is more satiety and fatigue than hungry curiosity about it on entering college.

The whole story of physics suggests the old tale of the duck farmer who was also a chemist, whose researches showed him conclusively that one thing that would fatten the eider duck most cheaply and rapidly and give its flesh a delicacy that no epicure could resist, was celery; but when his duck farm was finished and complete he found celery to be almost the only thing that his fool ducks could never be induced to touch. So all the educational legislation and curricularization in the world will forever abort if it does not take careful heed of the interests and capacities of pupils. It was perhaps one of the most eminent physiologists of the last half century who after long study thought he could artificially digest certain foods in retorts so completely that by injecting the pure chyme of it into the aorta he could dispose with all the preliminary stages of digestion that were performed in the alimentary canal, and by thus freeing the energy so used for culture could mark a far greater epoch upward in the race than that caused by the descent or control of fire and by cooking. Fortunately, he tried his experiment first on dogs, rabbits and guinea pigs; for all died of too much richness and condensation.

In 1899, 239,981 students in American public high schools

were studying Latin, of whom 47.55 per cent. were male and 52.45 were female. The increase from 34.69 per cent. in 1890 has been quite steady. In the eight years preceding 1898, while the total high school enrollment increased 84 per cent., the pupils in Latin increased 174 per cent., or twice as fast. It was taught in 4,706 of the 5,495 public high schools in the country and taken by 16,672 more students in 1899 than in 1898. This is all the more remarkable when we find that the proportion of high school pupils in the country, who are reported as fitting for college in any grade, has declined from 14.44 per cent. in 1890 to 11.54 per cent. in 1899; that in Massachusetts, where there are 13,563 high school pupils the first year, there are only 4,655 who enter the fourth year, and in 1899, 818 who went to college, or an average of about 3⅓, were from the 244 Massachusetts high schools. While we have no direct statistics upon that subject, it is plain that the great majority of those who begin Latin in the public high schools not only do not enter any higher institution, but do not graduate from the high school. In Massachusetts only half those who enter the first reach the third year, and only a little over one-third of them reach the fourth year. It would be interesting to know, what I can find no statistics to tell, whether it is not mostly these embryo Latinists who drop out limp, discouraged and disappointed. This fact constitutes an extraordinary situation, which classicists think a triumphant vindication of their claims of the inherent culture power of Latin, which the public at last recognizes, and a defeat of those who would establish science. It seems a victory of the old college idea. Some Latinists take bolder and more advanced grounds and agree with Bennett, who urges that language is the supreme instrument of culture, and Latin is the supreme language for education. Whereas Latin was formally defined as a good thing to know well, Bennett argues that its best use is for those who go but a little way in it; that it is a better drill in English than English itself, and better than French and German, because these are so soon and easily acquired to the point where they are read without translating as we go along into the vernacular. Just as soon, he says, as the content dominates words, "the mind is carried away by the general sense and the details and shades of expression escape." The end is linguistic, not literary; thought must not move too freely in the new language; proficiency in it must not go too far; and even after we know it pretty well we must persist in translating into English as we read. The highest value of this choicest topic is not only for beginners, but, says Bennett, for those of average ability. Only for those exceptionally gifted is the study of the mother tongue alone sufficient, and its educational value cannot be secured by

those much below the average ability. If this is not so, he says tens of thousands of high school pupils are making a prodigious and most wasteful error, and the sooner we recognize it, the better for our civilization. This latter alternative, I deliberately believe, and hold that the modern Latin craze is calamitous to the point of pathos, especially in view of the urgent need of other topics.

The facts needed for a full explanation of this rage for Latin are not all yet at hand; many of the causes are external; in some high schools Latin is required for the first year or longer; in others strongly advised. Again, as the high school in a sense sprung from the old Latin school, it still means Latin to a large part of the community, most so it appears among Roman Catholics, and there are many indications that the percentage of girls studying Latin will soon exceed that of boys. Latin, too, has acquired much momentum by inheritance from the old but often defunct English grammar with parsing and analysis. Those who hope and wish to teach find it next to algebra the safest investment, and it is the best students who hope to teach. Again, it is one of the cheap subjects to teach, especially as compared with science, and Latin teaching is more open to women than science.

The chief cause, however, I believe is its prestige and tradition, which are prodigious. This superstitious reverence of Latin has a second illustration in the autobiography of Booker Washington, who says that during the reconstruction period from 1867 to 1868, the colored people had two crazes—to know the classical languages and to hold office. It was felt, he adds, that "a knowledge, however little, of Latin, would make one a very superior human being, bordering almost on the supernatural," and he conceives a large part of all his own mission among his race to be the overcoming of these two passions. Latin is or has been so inexorably demanded by the college gatekeepers that to omit it on entering the high school has, often meant to abandon all chance of going to college however faint the prospect be. So thoroughly are even public high schools permeated to the saturation point with academic interests that work from the higher institutions downward, and so as yet unformulated and dumb is the sentiment of the people who founded and supported the public high schools to fit for life instead of for college, that perhaps nothing in our whole system of education better illustrates how extreme one tendency may become in a transition epoch before the inevitable reaction.

I will not raise here the ghost of the old discussion which has raged about the classics, but I do protest that everything we know of nature and needs at this age cries out against mak-

ing the early stages of Latin, for those who will soon drop it, the best study they could select, and I urge that this new craze for Latin rudiments involves losses no less than tragic, whether we consider the arbitrary and conventional reasons of choice, the purely formal nature of the training just at the age when the soul most hungers for substantial courses now so well supplied and which are so much better for all that great majority who enter the high school and leave before graduating.

The careful recent studies of truancy and runaways show that most occur in the early teens and are due to unconscious hunger caused by bad home dietaries; so I am convinced that mental mal-nutrition, thus caused at the age when the appetite for content studies is at its height, by thus offering a stone to those who cry for bread, is responsible for the rapidly decreasing numbers as we go up the grades of the high school. While the influence that has lately worked from above downward has done great good in many ways, I believe that we have here one of the worst results of the invasion of the high school by the college, which began with the report of the Committee of Ten, with its crude and obsolete faculty psychology of culture values and its complete ignoring, not only of every genetic principle, but even that there was a genetic standpoint, and culminated in the able but perverse and unpedagogical arguments of Bennett.

Moreover, as compared with science, Latin is not only cheap, but an easy subject to teach. In few branches does a little knowledge go so far with a teacher, and in few can it be used in such an imposing way to drill and break in boys on a small capital of knowledge on the teacher's part. We have here hardly raised the practical question of the Frankfurt method of teaching a modern language a year or two before Latin, which one of its German advocates states brings boys of the same age as far after two as formerly after five years of study of it. I plead for the great majority who begin Latin and abort at an age when use and pleasure should be more associated than they are here, and for an education that means growth, in the sense of laying down tracks over which more of the traffic of later thought and life will go. If it must be that the great majority who begin the high school do not finish, instead of focusing our energy upon the few who get to college, we must so teach that pupils will be best fitted to leave at any time; or, if they do leave, shall not do so because they are gradually disenchanted by difficulty or aridity, or grow restless because they find other things in their new horizon more interesting, or have growing confidence in their own powers of choice, or are discouraged at the vista of years of work for which they have lost heart, and so, without fully knowing the cause, life attracts

them more and school less, till, in Chinese phrase, they "lose face" and fall out, when if, as Professor Hanus well desiderates, the life of the community had vitalized the school, the moral waste of abandoned beginnings would have been saved.

English properly outranks all other studies, being often required of all, throughout the entire high school and early college course. No topic counts more points in examinations; often the English of papers in other subjects is considered a part of English, and marked deficiency here debars from all courses. But the first great violation of nature's law of mental growth here is that form not only precedes but outranks content. The Cornell catalogue typically states that "in every case the University examiner will treat mere knowledge of the books as less important than the ability to write good English," and most colleges lay great stress and expressed upon spelling, grammar, a knowledge of sentence structure, punctuation, paragraphing, etc., while rhetoric and style are excessively and prematurely emphasized, and the study of English literature often comes only in the last year or two of the high school. The college taskmasters are themselves often stronger in English philology than in wide and sympathetic knowledge of English literature, or at best, are more critical than creative, fonder of minute and careful reading of a few masterpieces than of wide, general knowledge which the youthful mind chiefly seeks, and this is reflected in the copious annotations and the text-books. Wherever this method really takes root, and it rarely does in the youthful mind, we see its results in the ultra-fastidious effusions of the best writers for college journals, whose art culminates in the over-refined elaboration of some petty trifle, all form and no content, of a kind which constitutes so many of the illustrations of decadence cited by Nordau. The old slogan is that, if anything is done at all it must be done in a minute and exact way, and the prim and precocious proprieties of Addisonian syntax are rated higher than the more unconventional virility of a Kipling. The progressive feminization of the high school is perhaps also seen in the standardization of Tennyson's "Princess," much of which the standard boy of the middle teens regards as saccharinity ineffable.

How different all this from the standpoint of those who believe in consulting human nature and needs. On entering the high school the average child has essentially passed the stage of juvenile reading. Animal, detective, wildly romantic, and outlaw themes are on the wane, but there is a rapid rise of the curve of normal interest in travel, biography, exploration, adventure, literature with abundant action, perhaps dramatic, but always somewhat exciting and adventurous. Every census, now scores in all, shows that in the early teens there is

for the average child something of a reading craze, as if now for the first time the mind took flight in the world of books. More are drawn from libraries; more pages and more varieties of themes are sampled than at any other period up to perhaps the middle of the college course. The youth has a passion for reading things somewhat beyond his own experience. It is the age when Edison resolved to read the Detroit Public Library through, and read twelve solid feet, and then, as he says, stopped reading forever. It is, however, the reading of the prospector and not of the miner, the age of skipping and sampling and pressing the keys lightly, until something absorbing is found that feeds the soul. Girls, who always read most poetry, not only like most that boys do, but exceed them in preference for books by woman authors which boys eschew, also in those which center in domestic life and with children in them; and only after considerable experience with this freedom does any natural sense of style arise, or any strong impulse to express some embryo content of the mind, which is the bud of literary activity. School pressure has had much to do in either suppressing or arresting this passion for reading by hastening to control or direct it, or develop a critical state of mind that suppresses the creative impulses that are now putting forth their first tender buds.

Again, at no stage and in no department of psychic life are the receptive powers so far in advance of those of expression as here. Plasticity is at its maximum and utterance at its minimum. The mind is a sensorium, responsive to everything in the environment, but the very abundance of traffic inward obstructs the outward currents. Boys especially are liable to be dumb-bound, or almost aphasic, save in their own vigorous and often inelegant way. So many new things are reverberating in the new life to which the soul now awakens, that nature prompts a kind of modest reticence for which the deflowerers naïveté of the callow, ephebic soul should have some respect.

Again, good English really lives on the short circuit from eye to tongue, which is, we know, many ages older than the new long circuit eye-and-hand method of Cadmus, concerning which the best historian of French literature well shows that its golden age was when conversation dominated style and the worst when people talked bookishly. Children in school cannot all talk at the same time as they can all write or read at once, so that the old method in literature or oral transmission before printing arose has turned school-work so largely to writing that the graces of speech and reading aloud and story-telling are too often subordinated.

I doubt if among all the recent triumphs of the uniformitarians any has been worse than marking off a definite quan-

tum in this great field, or more violence done to both the subject and the youthful mind. The wide acceptance of these requirement books and authors marks, I believe, a pedagogic decadence, which in a future far nearer than we dream will be pointed out as the low water mark of English teaching which the last century can show, and as one of the most disastrous triumphs of mechanism and convenience over mental needs. Some universities hold out against it, like the Stanford, which offers five large groups of books and authors, including even the gospels and parts of the Old Testament, from each of which the teacher may select any one or more, and not only that but any substantial equivalent of this will be accepted, the university freely undertaking all the additional labor and setting and reading papers in some way, which must make the over-organizers gape and stare. We cannot, perhaps, so at least the great variety of choices of the hundred best books indicates, even reach anything like a biblical canonization of the things really best and most classical for youth and have a school Bible, as a late English writer wishes. Whether this great task was considered or even seen by our English committees, I do not know, but we have a most suggestive approximation to it in the new *Deutsche Lesebuch*, by Hopf, Paulsiek, and other secondary teachers of German, in nine volumes of over 3,602 pages, published during six years ending in 1898. The page is large; the type is a model; and the paper and binding so cheap that each child can own his library. The work begins in octavo, and in the lower grades great prominence is given to saga, legend, *Märchen*, fables, proverbs, hymns, a few prayers, Bible tales, etc. Every department and period of German literary history, from the Niebelungen down to a few living writers, is drawn on. Many careful digests of great standary works embodying salient phrases and quotations from the original, epic, lyric, poetry, exploration, adventure, biography, and even jests and humorous tales, which, it is explained, must all be read as a part of the course in English with a little of it studied in detail and memorized—all this marks a new and important step toward the practical solution of the great problems of language and literature in secondary education, which should be pondered. It is no mere aimless anthology or chrestomathy like Chambers's *Encyclopedia*, but is one of the best products of prolonged and concerted study of how best to draw upon all the sources of a great national literature in a way to feed best each nascent stage of later childhood and youth, so that profit and pleasure are best combined and so that the chief end of reading for the young, which it should not be forgotten is primarily ethical, is not ignored, and the literary instinct is allowed to irrigate a wide field instead

of encouraged to cut a deep cañon and leave desert plains on either side.

I have no time here to speak of algebra, almost purely formal, nor of other topics which I shall speak of later, but pass finally to the question—what are the causes of this pedagogical decadence? First, I think we must place the iron law of maximal ease which has made sophists, literalists, methodasters. To drill and break in the youthful mind is easy. Under no conditions can a precisian so dominate as at this age, when the soul cries out for wholes, not details; for facts, not formulæ; for crude masses of information, not for accuracy or analysis; for growth, not for logical order. Wherever we insist upon accuracy and finish, we are forcing nature, which decrees that youth should be kept plastic and growing. This evil is directly as the teacher's ignorance. Inadequate knowledge on the teacher's part is the chief high school evil which instinctively seeks shelter, dignity, and ease in formalism.

A second cause is lack of knowledge of the nature and needs of youth and the laws of mental growth. Our colleges and universities have not cultivated the true psychology of education, which is essentially genetic; and our academic chairs in this and allied departments, while often filled by men of the highest ability, whose achievements have justly won wide recognition, have persistently maintained toward genetic psychology, which is only the higher evolution entering the field of mind, the same attitude of indifference or even hostility that Agassiz maintained toward evolution. The analysis-plowing and cross-plowing of the adult consciousness, of late so overdone, can, as has been truly said, render little service to teachers and may even do them harm. But without knowledge of the later genetic stage of adolescence, teachers are handicapped by an ignorance which hinders much of their best work, at best provincial, because failing to recognize that the cultivated adult of to-day, whose mind is so overstudied and overexploited, is only a single stage of the development of mind in the world. Introspection even aided by new laboratory methods, can never restore the lost or losing ideal of the possibilities of adolescence, which has a new message of humanism to the world of education from a source richer and more original than that which was opened to the teachers by the Renaissance. It reinterprets and enlarges all traditions of liberal education by insisting that the only way to fit for the next stage of training is to exhaust the possibilities of the preceding stage, and to supplement knowledge and love of subject-matter by that of youth, devoted ministry to which makes teaching, as it always is at its best, the lasting and crowning manifestation of the parental impulse.

Third, the most important principle of the Committee of Ten is that the subjects should be treated alike for those who go to higher institutions and for those who do not. Only if these two classes of pupils differed very widely in ability would this principle be false; all admit that each topic must be treated in a different manner in schools for subnormal children just as all buildings cannot be begun in the same way. In a large and general sense, I believe it is profoundly true, but has nevertheless done incalculable harm and has been calamitous in its results. First, because, through no fault of its literal form, it has been very widely understood by parents and pupils to mean that the best way for all to begin in the high school is to start to fit for college, and that thus least will be lost and most gained even if they never get there. Thus certain topics are begun and arrested before they have been carried far enough to yield practical results for life, such as could be secured by less proficiency with other topics. Secondly, it has been calamitous because often associated with the absurd postulate of the equal educational value of all topics if taught equally well. This is almost the apotheosis of formalism against content studies. It has affected the choice of topics unfavorably, and is one partial cause for the excess of Latin. But, third, the chief harm of this dictum itself is that it has reinforced the assumption that the methods and subjects in vogue for those who go to college are the best. It is true that all topics should be treated alike, but the methods should be genetic, while the dictum has reinforced the logical method because it was in the field and sanctioned by the colleges, whose methods when transferred to lower adolescent stages do them great violence. By thus laying excessive stress upon the logical, scientific methods, fitter for college than high school, and discrediting everywhere genetic methods, incalculable injury has been done, whereas if these latter had been known and recognized as normative and the principle of like treatment had diffused and reinforced them, good and not harm would have resulted.

Lastly, we have in this field to face great and growing dangers that threaten the dignity and independence of secondary teaching, which must know, be, and do things that higher education knows not of. Thring, Arnold, and the founders of Schul Pforta did not owe their eminence to their success in meeting requirements of universities, because in most European countries entrance examinations in our sense are practically unknown. The high school teachers are now exposed to dangers akin to those of small merchants who drift to great department stores in the city. They become clerkly, like office lawyers working under orders. They seem content to sit as lay figures in the councils of their own government anxiously awaiting

the assignment of their stint with the spirit of faithful and devoted servants, honored by the confidences of their masters. In France, where over-organization has done perhaps chief harm, it was lately seriously proposed that they wear a uniform or livery. In England, Germany, and France, where the universities all once conducted entrance examinations, they were long since essentially abolished. Even in England, that land of examinations, they were given up in the second quarter of last century according to Mark Patterson, because they could not be made adequate tests of power; and in Germany and France, because of the increasing power of trustworthiness of teachers in the secondary schools. The present, almost feudal, dominance here of colleges or universities over the work of this grade is something that in its methods is without precedence in other countries or in the history of education. Many high school teachers in the Middle States and New England are ready for the mere convenience of fitting for one examination of a joint board, instead of meeting the differing requirements of college, to sell their birthright and independence. High schools and their pupils have doubled within the last decade, and are now over saturated by college interests, because these were more alert and first to assert themselves in the new and widening high school field. When the public high school really becomes, as it surely will, the people's college, permeated with the ideal of fitting for life, which is a very different thing indeed from fitting for college, then secondary education will become truly democratic; it will have plenty of local color and fitting for colleges will become, as President Jordan well says it should be, a mere incident. The public high school will say to the college, fitting is not our chief business; you are not our pace-maker; our business is to do the best we can for you at this stage; take our finished product or leave it, but if either of us bend, it must be the college.

The greatest need of adolescence to-day in New England is another association of public and English high school teachers, working independently of the college and in the service of the great public that supports the high school, interpreting its needs and striving to fit for life and not for college. Without some such new departure the work of this association, which has done so much good, but in so much of which we hear the jingle of the keys of the college wardens, will grow still more one-sided and its work be still more overdone. Such a high school renaissance would show no longer an increasing number of male teachers, who drop out because they cannot be true to their own convictions in a noble, manly way. It would bring to the front a class of high school leaders less supple and less servile, and more devoted to do their best to develop youth

at a unique and most critical stage of life, and free this work from the dominance of college professors, who would do more for science if they gave to productive research in their own departments most of the time, now often worse than wasted in dictating to high school teachers and increasing the now excessive number of high school text-books, and in other ways recruiting for their college.

NOTES ON SCHOOL ACTIVITY.

By E. Kate Carman.

The following notes are offered without comment merely as a record of facts in daily school life :—

Boy. First Record.

A boy of the mountains of western North Carolina, Scotch ancestry, 14 years old, 4 feet 4 inches tall. Blonde, sharp blue eyes. Active as a flying squirrel. Almost primitive in his instincts.

The first record is during study time only, no account being taken of recitations. Hence a day was selected which contained fewest recitations.

The second record — though at best deficient — is a faithful effort to keep tab of all a school day.

May 2nd, 1901. Clear and very warm.

9-9:15. Opening exercises. Quiet except working almost constantly with ink-well.

9:15. "May I get a drink?" Back at 9:22. Miss Gould said afterwards, he found a fishing worm, and took it into the aquarium for the fishes, consuming some minutes in giving advice about the need of regular and sufficient feeding.

9:22. As he came in at the north door, asked if he could leave the room, and went out at the south door. Back at 9:32.

9:32-9:35. Sat at his seat reading work previously prepared.

9:35. Asked to speak. Spoke to *three*. Back to seat at 9:36.

9:36. Up to my desk. "May I go in Miss Gould's room and get my pencil?" Right back and at his seat.

9:38. Up to my desk to ask if his English work is right. Back to seat. Sat down, stood in aisle fastening papers together a half minute. Sat, resumed his English work.

9:40-10:10. Recited English.

10:10. "May I get a knife?" Went across the room to get it. Sharpened pencil, went and returned knife. Back to seat. Got up and went to back of room to see some work on the board. Back to seat. Across the aisle to give Daisy twenty-five cents. Sat behind her.

10:13-10:16. Studied in this seat. At 10:16 I asked him to take his own seat as he was pulling Daisy's hair.

10:18. "May I speak?" Turned and spoke briefly. Turned back and sat with open book watching board-work of the class I was hearing in beginning geography.

10:20. Raised hand and joined in a talk on alligators. "W'y no 'm, they won't eat nothin' till the first of May, an' if they bite you, they won't let go till it thunders."

10:22. Pulled Daisy's hair and ran out his tongue. I spoke to him.

10:23. Heard some one in the hall. Hand up, "may I get a drink?" Right back. Stood up by his seat, twisted, wrapped one leg around the seat, watched some board-work, one foot upon the seat. I looked at him. He sat.

10:25-10:27. Studied.

10:27. Stood up in aisle with back to me, looking at a finished map on the board that had seemed to interest him. Writhed around, hands in pockets and out again; not a still muscle in him.

10:30. Recess till 10:45.

10:46. Came in one minute late. Had gone too far on his wheel and rode like mad to get back. Pulled the hair of three girls going to his seat.

10 minutes for a written lesson in spelling. Always one word behind. In correcting their papers (each marks his own) I asked him to spell separate. Quick response, "S-e-p-a-r-t-a-t-e, no 'm, t-r-a-t-e—no 'm, now wait a minute, I 've got it right only I just got bothered—s-e-p-a-r-a-t-e. Goody! I did n't miss a one."

10:55. Left seat to get a knife. Stood and sharpened pencil.

10:55-11:05. Class in nature study with Miss Gould.

11:07. Asked to leave the room.

11:12. Returned with an explosive account of a snake he had seen. I suppressed him, but as soon as he thought I was engrossed in a recitation, he stood in the aisle and measured off that snake to his neighbors.

11:15. Sat and wrote. (I thought actually working.)

11:16. Threw a note at Tom. A very rare occurrence, but that snake was too much for him. After a nod from Tom, he settled down to history—book open. Studied 6 minutes.

11:22. Up to waste basket with paper—back to seat. Up to desk, asked for music to copy words. Went to piano and got it. Wrote till 11:30.

11:30-12. Recitation.

12-12:30. Recess.

12:30. Ran up steps throwing new-cut grass on the girls. Tickled two as he went to his seat. Resumed the copying of music.

12:32. "May I go to the door and cool off?" (Cruelly.) "No, get your arithmetic." "I 've got it ever one." Sharpened pencil—returned knife. On his way back, got a long piece of string from Samuel, returned to seat.

12:33. Stood up. Made a cat's cradle. Unmade it. Made a 4-ply loop and hung knife on to his belt. Looked at Jim and whispered "Can't lose it now."

12:34. Sat—and studied six minutes. (Seems to be the maximum stretch.)

12:40. "May I get a drink?" Gone two minutes. I went after him. He had thrown water on J. A. from Miss Gould's room. Face all clean and shiny; hair sleek and parted in the middle, dripping down both sides.

12:43. Goes to a back seat to take down some English on the board.

12:45. Recitation in arithmetic. Rushed out ahead of Tom.

1:15. Back. Reported "100" as he passed my desk. Back in the room to copy English. I asked him if he knew his history. "Yes ma'am—pretty near all." Studied.

1.20. Asked to speak (consulted Carrie about English I think). Raised hand, "Miss Hughes, is n't which a pronoun?" Points finger at Carrie. "Eh—I told you so." Sits down there works on English.

1:23. A dog walked in, and up he jumped to put him out.

1:25. Up to desk to ask if a sentence is right. It was wrong. As he goes down the aisle—"Oh, I know now," winks at me and smiles.

1:27. "Can I speak?" Spoke to two.

1:30. Pulled Daisy's hair. Settled in his seat, and assorted papers.

1:32. "May I speak?" Then writhed around in the aisle with one foot on his seat till

1:35. Class in history.

This till two; then school is out.

Second Record.

Friday, February 28th, 1902. Cool and clear after a terrible storm and flood.

9:00. Bell tapped. Skipped from back door through the room to get a drink.

9:01. Came to his seat. Spoke to Fanny. Roll-call. Sat down and looked around. Opened desk, and got book. Opened it again, and got arithmetic. Laid it by the other book, and drummed on desk with his fingers.

9:05. Scripture reading. Sat still and looked around. Tried to make a hole in button with his knife. Prayer. Body inclined—gazing all around the room.

9:07. Left his seat. Whispered to Fanny, then to Fred. Returned to his seat when told. Stood up, said to me, "Did n't think I 'd get A in arithmetic." Spoke to Fred. Stood up and examined his report card two minutes.

9:10. Cut button clear off. Went to front register, stooped down and felt it; then went to back register, sat down by it; carved button, spoke to Harry, sharpened Dolly's pencil.

9:11. Came to seat. Went back, spoke to Tom, returned to seat, got report, took to Tom, and discussed it. Came back and stood at his seat, said to teacher, "Last term I got C B C B, bad, bad."

9:12. Sat, got tablet out, said something to Kate. Put penny under paper, rubbed it with pencil, and showed to Fred.

9:13. Got out report, put it back and scribbled on tablet. Said aloud, "Miss Hughes, wish we had a spelling class." Up to waste basket with paper.

9:14. Went over and spoke to Harold, took his seat. Back to Harold, exchanged pencils. Took his seat. Again to Harold, got his knife. Back to his seat.

9:15. His class in arithmetic is called. "I got three examples"—as he took his seat in class. Whispered to Tom. While Eben is at the board, he twists about on his seat, watches work, raises his hand. No response. Scratches head and looks to back of room.

9:18. Moved over by Lewis, showed knife he had got from Harold. Examined it closely, sharpened pencil, clicked the blade fifteen times. Gave it back to L. Watched the board, thumping his cheek with pencil and twisting feet under his seat.

9:20. Sent to the board. Repeats the teacher's question instead of answering it. Scratches head with pencil and looks around. Works at board. "No 'm, that 's wrong"—erases. Writes it correctly, answers three questions and takes seat.

9:22. Twists legs, puts knife under his seat and cuts the seat a little, leans forward to see work, runs pencil in mouth and around lips several times, rolls it between fingers. Raises his hand. Answers Eben's question. "Let me do that un please. Yes *ma'am*—I can do it. Oh—I know it just as good." Goes to board. "I 'd do it this a way—there!" (wrong), does it again quickly, right.

9:24. Takes seat. Puts head way back, bumping Kate's desk-top, which was up. She caught it. Peers around and grins. Scribbles in tablet. Shows Tom—and says something. (Evidently a puzzle, and shows how to do it.) Laughs, closes tablet. Folds his arms and watches Fanny at the board.

9:23. Leans forward—then towards Tom, grabs his pencil,

gives it back. Leans forward as teacher asks for attention. Writhes; hand down under seat scribbling. Hand up, "Oh—that's wrong." Leans back, laughs at another mistake.

9:26. Says something to L. Quiet twenty seconds. Raises hand—"Miss ——," laughs, drops pencil, picks it up, rolls it in his hands, looking at board, drops it again, picks it up.

9:28. Stands up and forward to see the board, taps his foot. Sits down, both feet on floor. One foot clear up on chair, the other swinging—then down again. "Four—it's four Miss Thompson." Looks at J. at board.

9:29. Gets Tom's knife, speaks to him, opens blade, trims thumb nail, rubs nail with fingers—then the blade again, sitting still a half minute. Leans forward, raises hand, answers "Hundredths—tenths, no 'm—ma'am?" Again at thumb nail. Opens two blades, clicks one shut.

9:30. Shows Tom, speaks to him, stands, hands paper to teacher, talks to her.

9:31. Class dismissed. Took his seat.

9:32. "May I get a drink?"

9:33. Came in. "Miss Hughes, there must be a leak out there—the water's runnin' all over everything." Took his seat, and sprawled all over it. "May I speak?" Spoke to two in back of room.

9:35. Came past Eben's seat, touched him, came to his own seat, stood up, got out a tablet, laid it on desk, spoke to Fred. Hand up. "May I get a tablet like this from George to copy tactics out of?"

9:36. Stopped at Robert's desk, looked at his work, came on, stopped at Fred's desk, looked at Youth's Companion. Came to his seat—ran back in the aisle to get something.

9:38. His geography class called. Took seat beside Lewis, talked to him.

9:39. Still one minute. Answered two questions asked other pupils. Went to map—recited about fertile parts of Africa, and pointed them out. Told well about the Nile country, but did not know the southern country. Asked some questions about it.

9:41. Sat down, hands in pockets, seemingly interested in lesson.

9:45. (Teacher suggested estimating length of some of the rivers.) Took book out of Lewis's hand to find map, allowing L. to look on. Returned book. Wrote on hand the length as given in back of book. "Let me tell." Gave number. When this was found unsatisfactory, took book again and measured with pencil the Mississippi to compare with Nile, while another was reciting. Put in answers to questions put to two others. Spoke to L. Hand up, frantic to answer another

question—but kept quiet. (Fred told to locate Nile cataracts on wall map.) "Oh—I see them from here."

9:50. "Have you ever been in Africa Miss H.?" "I'd like to see the big pyramids." "The people worship the Nile and feed their babies to the crocodiles, don't they?" Then told how people live in boats during the overflow, standing up, hands in pockets. Sat down and listened attentively while Miss H. told of surveying among ancient Egyptians. Played with button on coat lapel. "Arabian horses are noted for their beauty." Took button off lapel and pinned it on again."

9:53. "Mexican ponies—why they are good horses too." Sat with hands under his legs—both legs violently swinging. "The Arabs they have rings in their noses." Spoke to George —then to Fred.

9:55. Head down on hands, elbows on knees. Hand up, "Let me tell, please Miss H." "W'y the men they have some kind of dress on (stood up). They have a moon on their foreheads—I seen regular Arabs in Buffalo Bill's show—w'y Miss Hughes Buffalo Bill is in Charleston now." When the class is told to open books to see next day's lesson, he looks on his right-hand neighbor's book, then on the left, then at the second on his right, nods as he sees extent of lesson.

10:00. Class excused. Went to his seat, ran to back of room, darted back, slid in his seat, got out note book. Got arithmetic, put it on his seat and sat on it. Closed note book. Went back to George, stayed a half minute, trading something. Back to seat. Stood up. Tried to pull button off his coat. Could n't, so he took out knife and cut it off. Leaned over and whispered to Kate.

10:02. Told to put up map of Africa, and get down another for next class. Drew down the map; before replacing the map-hook, used it to present arms, winked at boys in room, stood it in the corner, saluted boys and took his seat. Stood up, boring button with his knife. Went to back register. Worked on button—sharpened Myrtle's pencil. Put button on seat, worked hard trying to drill hole in it.

10:05. Told to take his seat. When about to sit down, raised hand and asked to go out. Went.

10:06. Came in. Stopped to look at paper on a desk. Came on rather slowly, said something to Fanny. Sat down, turned and spoke to Ethel. Turned back, got out his geography, and studied, head on hand and lips moving.

10.09. Picked up tablet, wrote on it, made a blot, got out knife and scratched it off—wrote more.

10:11. Put tablet away. Spoke to Fred diagonally back of him. Resumed geography, head on hand, studied *hard*.

10.20. Put geography away. Stood up, turned around,

asked to speak. Went back and spoke to Nora. Came to seat, turned around, spoke to Ethel, turned back, yawned—stood in other aisle, lifted desk lid, arranged contents.

10:22. Put Youth's Companion from his desk on another. Got out copy-book, spoke to Fanny, sat down, got pen and wrote.

10:25. Put copy-book in desk, and got a paper-backed book. Began to read assiduously.

10:26. Put book down. Yawned. Turned around. Resumed book.

10:30. Recess. (The book I found to be "Face to Face with the Pirate Captain"—sample sentences of which I append.) Recess of ten minutes spent in playing Indian with spears—three of which he had while other boys had one.

10:45. Bell rang. Ran wildly around the house with a spear in each hand, and one thrust through the front of his coat, whooping all the time. Came in quietly. Sat down and read book.

10:46. His literature class called. (Stayed in his own seat behind first row.) Hand up to answer first question, jumping upon his feet at the same time. (Gave narrative of Lady of the Lake, Canto IV.) Sat down, reading Pirate.

10:48. Hand up—answer correctly given—Pirate in the other hand. Answered another question—and resumed book. Some one in class said witch is the feminine form of wizard.

10:50. He leaned over to Tom and said in stage whispers "wizard—wizardess," whirled back with feet in other aisle, scanned some work on the board belonging to another class, back again, stood up and recited well for two minutes.

10:55. Up to waste basket with paper. Back to seat. Opened Lady of the Lake again and marked words and passages for special study. Very attentive for ten minutes while teacher directed all in this work.

11:10. Class excused. His English class called. (To-day's lesson mostly a drill in pronunciation very easy to him.) Goes to seat and comes back.

11:12. Hand up. "Venison is deer meat." (Quite unsolicited, as definitions are not called for.) Hand up again. "Which means a soldier, calvary or cavalry?" Listened and laughed at some efforts at pronunciation.

11:15. Changed to next chair. Spoke to Fred and gave him a little sen sen. Both taste it very cautiously. No attention to recitation. Played with a paper fastener. Dropped it, picked it up, and put it in his pocket. Turned around, spoke to Millie—showed her sen sen, ate a little.

11:18. Teacher wrote some words to pronounce on the board. He moved to edge of platform to see better (?), and sa[illegible]

down on it. Leaned back on waste basket. As it moved he turned towards it and investigated contents. Watched words, volunteered pronunciation for each one—turned over papers in waste basket. Pronounced bulbous—"W'y a piony's a bulbous plant and an Irish potato."

11:21. Opened his grammar and read quietly. Ate sen sen.

11:25. Borrowed pencil from Robert. Traded a small one for it. Stood up, looking at words, went to his chair, sat down, looked about quietly, except swinging his feet.

11:30. Class dismissed. Went to seat, got out note book, put it back, got out the Pirate. Asked to speak. Went to Fred, traded pencil for some transfer paper.

11:31. Back to seat. Teacher gave him a history to study. Read it five minutes.

11:36. Leaned forward listening to some one in the rhetoric class read a production on snakes. Studied history—head on both hands and book flat open on the desk. Mr. H. called—heard rhetoric work and talked a little to class. Paid no attention. Absorbed in reading.

11:50. Leaned over Vinnie's shoulder to see their next lesson, as it was assigned. Put mark in history, came forward and put it on desk,

11:52. Class dismissed. Writing period. Gets out copy book. Spoke across the aisle to Daisy. Begins to write carefully.

11:53. Asked to speak. Went to Fred. Spoke a half minute. Back to seat and writing.

12:00. Noon recess. *Ran* back to George, said something —then to Nora—back to seat, lifted desk lid, took three biscuit sandwiches and ran out. (During recess two dogs were killed not far from school. One lay near the street, and the children all went on the other side of the street looking quite askance at it. He went over near it, looked a minute, then threw one of his spears at it. This stood almost upright near the head and remained there.)

12:25. Came in slowly. Looked at me and said "Killed two." Sat down, got out the Pirate and began to read. Still, except attention to his nose, for six minutes.

12:31. Turned to notice new arithmetic lesson being put on the board. Put hand back on Ethel's desk and thumped till she slapped it.

12:31-12:34. Read again. Very still.

12:34. Reminded by teacher of arithmetic to do. "I ve got all *that*."

12:34-12:45. Read. Legs apart, feet together—diamond-shaped. Head on one hand—then on both.

12:46. Class in Hawthorne's Wonder-Book, of which he is

a special member at his earnest request. Came to class talking to Fred. Sat and began to turn leaves. As soon as some one else began to read he turned to back of book and read quietly, legs crossed—feet on under part of chair.

12:52. Followed lesson as Fred read, whispered every hard word to him till checked—kicked George, looked all around.

12:54. Hand up to head—hand up—then stands and reads aloud. Pigeon-toed—both feet moving a little, and when still toes moving constantly.

12:55. Sat—both feet upon round of chair. Rubbed his leg vigorously—pinched up the stocking and scratched.

12:56. Twisted lips with fingers—evidently trying to make them stay curled. Read in back of book again.

12:59. Head ducked down, absorbed in reading. Stretched right arm out—scratched his head—put hand under chin and pushed head up and down. Feet stretched way out—sitting on edge of chair. Read.

1:02. Sat up—beckoned to Tom, spoke to George, then to Fred. Stretched legs—poked George. Crooks his forefinger —then more elaborate gestures (no one noticing him).

1:03. Made funny face at Harold. Spoke to George, showed him a button; compared it with three others on his lapels (advertising buttons). Looks at book—follows a moment when some one is reading.

1:05. Writhed on seat—stood up—notices assignment of next lesson. Class dismissed. Goes to seat—lifts lid of desk, gets papers. Stands then sits, three times.

1:10. His class in Roman history. Stops at my desk to put some papers on file. Sits in class—shares Vinnie's book. Winks at Fanny. Quiet.

1:12. Reads a passage aloud and comments on it very well.

1:14. Sits, shows a hook to Vinnie—catches it on her book. Swings feet—pays close attention to others reciting. Raises hand.

1:17. "May I get a drink?" Stays out 3 minutes.

1:20. Hand up. Recites. Hands in pockets.

1:25. Sits—rather quietly listening to others. Begins to writhe, yawns, grabs Ethel's report, looks at it, and teases her. Gives it back.

1:30. Class dismissed. Goes to music class till two. Then school is dismissed. (No record of music.)

Names of chapters in the pirate book.

I. The end of a stormy life.
II. Night and morning.
III. A blow on the jaw.
IV. A hole in the ground.

V. Entering the cave.
VI. The cavern of death.
VII. When the tide fell.
VIII. Dick's nerve.
IX. Lib's confession.
X. The slip of a knife.
XI. Facing ruffians.
XII. The last of the sea-wolf.

Some sentences taken at random.

The light from the cabin lamp fell on the face of Captain Jubal, giving it a fierce look. The livid scar stood out in a ridge on his cheek, and his eyeless socket was repulsively red.

The first thing noted was that the failing light showed there the ghastly face and dark figure of the man in the water.

"There's old Peg-leg: his spook would haunt the treasure." "To say nothing of the man he shot when he fired at the one in the water there." "Woo-oo!" breathed Ben—"don't speak of him."

Girl's Record.

Record for one day of a little girl nine years old. Entered this school one week ago. Observations recorded by Miss Gould.

Monday, March 3rd, 1902. Clear and cool.

9:00. Promptly in her seat. Rose twice to spread her dress out, then sat with hands in lap, body perfectly still, had turned only twice during opening exercises.

9:10-9:20. Sat same way during period of nature-study, except hand up to her face twice. No part in the talk on birds, etc.

9:20. Takes out arithmetic, looks at it vacantly, turns pages. For five minutes, seems to study it a little, but she looks dreamily around the room several times.

9:26. Asks to leave the room. Goes very quietly.

9:30. Back. Sits quietly. Takes pencil and book—but does not study. Writes slowly in book—then erases. Turns pages slowly.

9:38. Seems to study. Lips move a little. Body and legs very still.

9:40. Her class in arithmetic called. Comes with others. Is the only one without her written work. When called on for first problem, does not know where the lesson is. Martha tells her. She reads "A little girl was sick three months and a half. How many weeks was she sick?" Stands a moment, then says "Four." I ask "How many weeks in a month?" Hesitates, then says five. I ask her to read line "g" above. Starts to read "j" I repeat. Starts again. After some confu-

sion finds "g"—reads "Four weeks make a month." I ask then "How many weeks in one month?" "Don't know." Reads it again—answers to same question, "Three." Reads it again, and very timidly says "Four." "How many in two months then?" "Five." After much assistance says "Eight." "Then how many weeks in three months?" Hesitates—then answers "Seven."

9:46. Some one else takes the problem. Holds her book and looks blank. At a mistake of Martha, raises her hand cautiously. Smiles.

9:50. Called on again, she adds slowly but correctly, 3, 4 and 5; 6, 2 and 3; 4, 5 and 2; 3, 9 and 1. Another time raises hand and answers correctly what some one else missed.

9:58. Back to her seat. Takes up book—lays it down, looks around. I ask her about an arithmetic paper due before this. Says she left it in her desk. Watches Willie behind her—then Arthur across the aisle—hands in lap—no book out.

10:05. Takes out reader. Seems to study.

10:06. Watches us tighten windows which had been rattling. Handles book.

10:20. Puts book away. Writes on some paper.

10:30. Recess. (The writing proves to be a tit-tat-toe design.)

10:40. At once in her seat and quiet.

10:44. Takes out tablet—looks around.

10:45. Class in reading called. Has not done her copy work. Looks blank—makes no reply when asked why. Ethel (who is not even in her class) says "She thought that was for English." Pronounces words at head of lesson. Out of 15 misses 3. Does not follow when others read. Reads very low—without a particle of life—says nes-tes for nests. Watches book—hands folded on top of it. Lesson is in four parts. Others tell which part they like best and why. She volunteers nothing—when asked says "This," pointing to page. "Which one?" "What I read." "What number?" Some one looks over and answers for her.

11:10. Takes seat. Handles tablet.

11:13. Takes out book—writes some spelling from her book. This very dreamily done, and looking about, occupy her 30 minutes.

11:45. Her spelling lesson handed in was as follows: (Words pronounced by teacher.) path, lane, thick, caks, hirer, barn, weeks, fathi, alrey, brano.

11:53-12:03. Writing period. Wrote in copy book. Noon recess till 12:25.

12:26. Came in one minute late. Sat quietly.

12:28. Took out a book. Looked around.

12:33. Began to prepare English lesson. (Sentences to be made from such words as horse, your, snow, etc.)

12:57. English class called. Others had eleven sentences; she had six. Two without capitals—four without periods. Does not write on the lines at all. An unusually good lesson for her. Sits motionless in class with hands in lap. When a sentence was read containing Ethel's name, turns and smiles at her. Does it a second time. "All to the board" is said three times before she moves. At last stands, looks around slowly, then goes. Makes two mistakes in dictation besides omitting question mark.

12:58. To her seat. Kneels to look in desk. Sits—turns head—stands a moment and handles book. Sits.

1:02. Opens book—writes.

1:10. Drawing period. She tries, but makes efforts of a five-year-old.

1:30. Goes with class for music. This till 1:55 closes the day.

LITERATURE.

Nature Study and Life. By CLIFTON F. HODGE, Ph. D. With an introduction by G. Stanley Hall. Ginn & Co., Boston, 1902. pp. xvi+514.

The last ten or twenty years have revealed to students of pedagogy in our country some strange phenomena of dictation from higher to lower schools. A slight appreciation of professional fitness combined with zeal and eagerness to have the lower schools improved as fast as possible, together with more or less lack of appreciation of the psychological demands of different stages of growth, and a confident assumption that the higher teacher of a subject ought, in the nature of the case, to know what the lower teacher of the same subject ought to do; these, with a real lack of professional fitness on the part of the elementary and secondary teachers to handle their own problems, have precipitated a decade or two of educational literature in which college professors have reported in committees upon work below the colleges which should have been handled by experts of the lower schools if such experts had existed. The secondary schools especially are full of text-books, *e. g.*, in physics and chemistry, made by college professors to teach such 'elements' of physics and chemistry as they want acquired in preparation for their college courses in those subjects. With scarcely more knowledge of the needs of growing minds and with greater ignorance of the meaning of the subject, men and women who lack even this eminence of view, have prepared encyclopedic courses in nature study which aim to teach the elements of *all the sciences* before the high school is reached.

Dr. Hodge has been led to do what he has done in this book by seeing just this confusion and by noting the rational absurdity of these encyclopedic and other monstrosities. He says he thought the pedagogues were probably handling the question,[1] but discovered the real state of affairs a few years ago. The results of his observations have been years of trial of what he has put into this book and finally the book itself. Though himself a university professor of biological subjects, he could not be convicted, upon the evidence furnished by the book, of trying to have the lower schools furnish the technical elements of biology in preparation for higher courses. On the contrary, he will take the risk of later work if the child from the first is given the chance at nature itself which is every child's human right. To appreciate the book from the start one should read his articles in volumes 6 and 7 of the *Pedagogical Seminary* on the Foundations of Nature Study.

It is due Dr. Hodge and his book that his former declarations on nature study and criticisms of other methods be duly taken into account in estimating the book itself, but space permits only a brief statement of these as he has himself recently summarized the "Criteria of Nature Study."[2] The dangers of a plastic course in nature study and any successful course must be plastic to keep it "closely in touch with the

[1] *Ped. Sem.*, Vol. VII, p. 100. Foundation of Nature Study, *Ped. Sem.*, Vols. VI and VII.

[2] The Criteria of Nature Study, New York Teacher's Monographs, March, 1902.

natural and spontaneous interests of both children and teacher," and must adapt itself so as "to open up avenues of interest in various directions which may appeal to all"—the dangers of such a course are (1) that the over-enthusiastic specialist will carry his technical university courses down into the grammar school, and (2) that the teacher who "has cultivated no wholesome nature interests" will be content to pursue what Dr. Hodge has characterized as the "knot-hole method" letting "a broom splint, a sliver of pine or a knot-hole fill in the time with a haphazard lesson." The long struggle of the race in the "ascent of man" persists in the author's mind as the fundamental criterion. The very plasticity here sought disallows the hereditarian dogma, and atrophy and dormancy follow our failure "to give the child his natural environment during the years of growth and plasticity." But so far from meaning by this that the child must be made to pass through all the race's stages of instinct and savagery, Dr. Hodge finds as the most vital criterion of all the desertion of such an artificial dogma for the firm ground which he finds in Dr. Brook's declaration that "life is response to the order of nature," each organism to make its own response in its own time. "A lowly organism responds to but a little of the order of nature." Man has neither attained to the highest manifestation of life, nor must he be ever practicing with bows and arrows to perfect his skill with the rifle. "The overwhelming fact is that life is cast into the midst of nature as the great matrix of education. . . . . A system of elementary education that gives to the child in the place of nature an environment of symbolism . . . . is a system that leaves out truly elementary education itself." Since "Life is knowledge in use," a fundamental criterion "is the relation of the lesson to the whole-souled, spontaneous activity of the child." Leave out of our nature study course any of our science which is not knowledge in use. Again, we must take account of human short cuts and "distinguish between the essential and fundamental and the merely trivial and temporary activities associated with human progress." The special and technical are matters of adult life, and we must leave them for later years. Moses has stated the problem in the large, to "subdue the earth, hold dominion over every living thing, make the world a paradise." This has been done in (1) the domestication of animals (nomadic life) and (2) the cultivation of plants, which is the great uplift of civilization, gives stable landhold with love of home, hence love of country—and hence also the foundations of communities, trade, commerce, art, literature, science, philosophy and religion. Thus it is "these fundamental currents of human life, as for the race, so for the child, that are the basal criteria of nature study."

In no other field have there been more blind guides stumbling with us into the ditch of strange formalisms. Nature study (much abused term), as the nearest thing of all to humanity itself, exemplifies most fully that strange perversity with which education has, in all civilized time, thought it its special duty to get hard and distant things through the human skull. As such it is the last subject to be freed from formalism, classificationism, sentimentalism, fadism and all the rest of the artificialities that seize upon every bit of nature and truth the moment it enters the schools. That Dr. Hodge has justified the criticisms he has made of other books upon nature study and fulfilled the promise of his carefully laid foundations the book itself attests on every page.

The subjects treated are the best index to the character of the book. After treating briefly the point of view and the values of nature study—the chapters are as follows: Children's Animals and Pets, Plan for

Insect Study, Insects of the Household, Lessons with Plants, Elementary Botany, Garden Studies, Home and School Gardens, Nature Study Property of Children, Garden Fruits, Propagation of Plants, Insects of the Garden, Beneficial Insects, The Honeybee, Insects Beneficial and Beautiful, Insectivorous Animals, The Common Toad, Common Frogs and Salamanders, Our Common Birds, The Bird Census and Food Chart, Practical Domestication of our Wild Birds, Taming and Feeding Birds, Elementary Forestry, Aquaria—their Construction and Management, Miscellaneous Animals, Flowerless Plants, Flowerless plants—moulds, mildews, yeast, bacteria, The Grade Plan. The book has a good index. Among the things we miss are gruesome skeletons and bones, charts of grasshoppers dissected into fragments meaningless except to a specialist in anatomy, lengthy accounts of things which should be found out by the pupils themselves, puerile questions—and most conspicuous of all by its absence is the strained sentimentalism which is no less nauseating to a normal child. If one fears that it lacks the poetry which is inseparable from nature he need look no further than the dedication, which is a poem of such beauty as is found on every page of the book, for every page but allows Nature to reflect the beauty which inheres in her truth. We find no more fine points of classification than the headings of the chapters indicate as necessary. Life, activity, what it does and how it does it, how we can help it do beneficent things or hinder its interference with human well being and happiness exhaust the field of nature and life at least as childhood is related to it, and there is no time for dissection or division into dead bits of head, thorax, abdomen, etc. If these divisions are needed they will appear in connection with life and activity and not as dead science of classification. How unfortunate we would be if we were obliged to designate each other as such and such a variety and species of the *genus homo sapiens!* It is only in school that we insist upon such absurdities.

What we find in place of these relics of scholasticism and ill-concealed simplifications of college science denominated "nature study" is certainly refreshing and full of hope. We find a running text every inch of it full of interest because full of things to do, and a text unbroken by anything less interesting than the text itself, and readable to the point of fascination, by teacher or pupil or anybody who has enough of the love of the true and the beautiful to value a suggestion as to where and how he may know them better. The two pictures "Good Samaritans" (p. 346), and "Watching a Brown Snake Shed its Skin" (p. 404), are worth buying the book to see, and their mention is no disparagement of the other instinct, artistic photographs and drawings with which the book is replete. The horse (p. 39) has fixed an image in my mind's eye, which despite the odiousness of comparisons I cannot help setting over against a drawing, in another nature study book, entitled "An Arabian Horse." A boy who knows live horses and can be made to believe that the noble companion of the Arab looks as much like a saw-horse padded to the proportions of a well fed porker as that picture represents him, can be safely fed on the dissecting-knife chips of that book.

It seems to be the fashion with the newer books on nature study to adapt their suggestions to the seasons as the chief formal division of their subject matter. The California boy or girl will suffer no confusion in the use of this book though made in New England; and certainly California school children need the relief which a naturalist like Dr. Hodge can give them, from the stuff they are fed in their State text-books by "specialists" (in job getting).

Another point of probable attack (for I take it he will be attacked

where his work differs from others) is the fact that Dr. Hodge has laid a stress upon human interests as of first rank, which will no doubt be decried as 'utilitarian.' We shall simply have to wait till scholasticism has given place to the inevitable "humanism" to come, when it will be no disgrace for any good thing to have had a use to humanity for its first and sufficient excuse for being. R. C. BENTLEY.

A Short History of Germany, by ERNEST F. HENDERSON. Vol. I, pp. 517; Vol. II, pp. 471. The Macmillan Co., New York, 1902.

The first volume covers the period from 9 to 1648 A. D., and the second continues the story down to 1871. The work "is dedicated by gracious permission to his Royal Highness, Prince Henry, of Prussia, on occasion of his visit to America." Such a work has long been a desideratum not only as a work of general reference, but for college classes. "Germany stands in the center of Europe, and on her soil all the great international struggles have been fought." The writer dissents from those who recommend the history of France as the guiding thread through general European history, the chief factors of which are the papacy and the empire. The first was German from the ninth to the nineteenth century, and Luther was surely more important than the French reformers. Moreover, striking personalities and events from the days of Frederick the Great to William I stand out in bold relief. This work is well illustrated and contains clear and sufficient maps, references to authorities and indexes, and certainly fills a long felt want as a key for the student and as an authority for the general reader.

Animal Experimentation. A series of statements indicating its value to biological and medical science. Little, Brown & Co., Boston, 1902. pp. 177.

This tasteful volume consists of the statements of various remonstrants to proposed legislation to further restrict experimentation upon animals for medical and biological purposes in Massachusetts. They were called out in the legislative hearings upon this subject in the spring of 1901. It was a very happy thought to gather these statements of thirty prominent men who favor vivisection under proper restraints. The fullest statement is by Professor Ernst, who conducted the case in a far more dignified and effective way than the clever lawyer to whom the petitioners entrusted their side. Although some little anxiety was felt because this chronically recurring matter came last year before a new committee, the result showed that such solicitude was unnecessary, for the committee after careful investigation, visiting many laboratories for themselves, were unanimous in giving the petitioners leave to withdraw.

Schutze's Amusing Geography and System of Map-Drawing, by LENORE CONGDON SCHUTZE. The Whitaker and Ray Co., San Francisco, 1900. pp. 64.

"This is the shark that lived for years on waters dark," for Cuba is mnemonically represented by a shark. Then comes a turbaned head in the shape of Spain. "This is the wight that caused the shark to live for years on waters dark." Then comes a peacock, whose head is Maine, one foot Florida, and the other the delta of the Mississippi. "This is the bird that rose in its might and punished the wight that caused the shark to live for years on waters dark." This is the child history of the Spanish-American War.

Louisiana is a chair; Georgia, the head of George; Wisconsin is a badger; West Virginia, a vulture; Eastern Massachusetts, a hideous beldam shaking her long arm, which is Cape Cod; Florida is a net with

a handle; South America, a ghastly skull. All this helps children to draw and gives great interest in form. There is a great collection of geographical conundrums, puns, riddles, etc., with various memory songs.

This is certainly something new in geography and is ingenious. It is not intended to be a text-book, but only an accessory. As a geographical spice, we should think it very interesting. It is said that children cry for it, and if anything can enliven and enrich the dull work of drawing maps and awake an interest in form, it is certainly a Godsend. We heartily believe this book worthy of consideration and believe it will be helpful. The writer is a lady who has had the advantage of long European study and experience in teaching and lecturing.

The American Federal State, by ROSCOE LEWIS ASHLEY. The Macmillan Co., New York, 1902. pp. 599.

This civic text-book is intended not only to describe the organization and work of the different American governments, but to make prominent the relation of the citizens to the government and to each other. This seems best done from the standpoint of the State as an organized unit. The work is concise, yet complete. First the elements of politics are treated; then the historical period on English soil and in the colonial age; then the revolution, constitution, nationality, colonialism, democracy, slavery, and the new nation. Under the second part—government—the chief topics are—the general character of American federalism; the senate, house and their powers; the president and executive departments; the judiciary; the relations of the three; the States, their constitutions and government; phases of State activity; town and county government; municipality. In the third part—policies and problems—suffrage, party, constitutional, and legal rights, taxes, money, trade, industry, foreign affairs, colonies, and duties of citizenship are treated.

Protection of Native Races Against Intoxicants and Opium, Based on the Testimony of One Hundred Missionaries and Travellers, by DR. and MRS. WILBUR F. CRAFTS and MISSES MARY and MARGARET W. LEITCH. Fleming H. Revell Co., Chicago, 1900. pp. 287.

This great battle of conscience against commerce is well described in different countries by the many authors whose testimony is here classified. The book is made all the more interesting by many photographs of leading workers and authorities in various parts of the world. It is a most useful and timely book.

A Laboratory Manual of Physics, by HENRY CREW and ROBERT R. TATNALL. The Macmillan Co., New York, 1902. pp. 234.

The authors do not describe classic experiments, but seek to illustrate the first principles of physics in a simple way; to supplement some of the excellent text-books already in use; to reduce to a minimum the expenditure of energy in teaching; to give condensed laboratory directions, which are continuous and homogeneous; and to avoid excessive use of blanks. Like other books of the series, this book is based on McLellan and Dewey's Psychology of Number, and is designed for grammar grades. The basis of it is contained in the statement, "no number without measurement; no measurement without number," and from undefined whole to defined whole by analysis which gives objects or particulars, and by synthesis which gives the defined whole.

The Elements of Physical Chemistry, by HARRY C. JONES. The Macmillan Co., New York, 1902. pp. 565. Price, $4.

This is a new science mainly developed within fifteen years. Although the older physical chemists are not neglected, the new are especially regarded. This work deals with the whole subject, old and new, although in an elementary way. It is designed to help students in their later college and early university work. It presupposes a general knowledge of both chemistry and physics. The distinctly new part of the science begins with chapter 5 on solution. Thermo- and electro-chemistry are given their true place. On the whole it is a well balanced work on a very important subject, with innumerable practical references which also reaches out to biology.

An Elementary Book on Electricity and Magnetism and Their Application, by DUGALD C. JACKSON and JOHN PRICE JACKSON. The Macmillan Co., New York, 1902. pp. 482.

While especially intended for an elementary text-book, this will interest all readers with a taste for science. The author's idea is that science is best taught in an atmosphere filled with every day facts and of sense. The language is plain and clear; there are 358 well chosen illustrations; not too much mathematics; and it seems in every way an admirable book.

Der Lehrgang des Schauspielers, von ERNST von POSSART. W. Spemann, Stuttgart, 1901. pp. 82.

This lively and interesting pamphlet on a course of study for actors discusses the choice of the profession, the development of language, voice, accent, etc., the technique of movement and mimesis, with sections on masks, painting the face, perukes, beard, nose transformations, the use of rice meal, and hygiene and dietetics.

Les trente-six situations dramatiques, par GEORGES POLTI. Paris, 1895. pp. 200.

This author believes that he has reduced all possible dramatic situations to thirty, each of which is characterized in a chapter, which certainly shows amazingly wide knowledge of the dramatic art. This was the principle long since suggested by Gozzi in a work which seems to have met with much approval by Goethe.

The English Chronicle Play, by FELIX E. SCHELLING. The Macmillan Co., New York, 1902. pp. 310.

The forerunners of the Chronicle Play, its growth, Shakespeare's predecessors, Shakespeare, popular playwrights, the legendary and biographical plays, plays on Henry VIII, and later historical dramas —are the chief topics. A table of extant plays, list of plays on English historical subjects, and an index are appended. It is an admirable attempt to tell the history of "one of the many and various strands which, twisted and interwoven, form the brilliant and heterogeneous Elizabethan drama."

Erlebtes und Erstrebtes, von CARL GEGENBAUR. W. Engelman, Leipzig, 1901. pp. 114.

This is an extremely interesting account of the childhood, youth and university life of an eminent scientist. Very little is said after the year 1856, when the writer was settled to his first university work in Jena. It is written with great frankness, and the author's comments upon the experiences and education of his early life are of great interest.

The Very First Lessons at the Piano, by MRS. CROSBY ADAMS. Clayton F. Summy Co., Chicago. pp. 30.

The author of this collection of little melodies with and without words seeks to awaken interest in pupils in their music from the outset. It is preceded by a careful introduction setting forth the main features of the author's interesting theory and practice. Those who insist on the old-fashioned drill methods and disregard interest will not like it, but we believe the author's idea is in the main right, although we cannot but wonder whether the work is not made a little too easy at the outset.

Studies in Education. Edited by Earl Barnes. Philadelphia, March, 1902. Vol. II, No. 1.

Teachers will welcome with great pleasure the promise of another series of studies in education by Earl Barnes. The first number, after a brief introduction, contains five articles as follows: The development of children's political ideas; political ideas of American children; children's stories and poetry: I, the mere rhyme; studies on children's drawings: I, the Boer War; type study on ideals: I, the problem and work already done.

Augsburg's Drawing Book I, by D. R. AUGSBURG. Educational Publishing Co., Boston, 1901. pp. 188.

This is number 1 of a three book system to teach form and color. The first is the teacher's handbook; the second is a text-book for the pupil; and the third contains short courses in brush, wash, water color, and pen drawing, chalk modeling, the human head and figure, decorative designs, and mechanical drawing.

Holman Hunt, by GEORGE C. WILLIAMSON. Bell's Miniature Series of Painters. George Bell and Sons, London, 1902. pp. 64.

This tasteful and illustrated little work is a judicious and interesting compendium of the great painter's life, chief characteristics and his principle productions, including the missing pictures together with a list of the important books and articles upon him and his work.

The Leopard's Spots. A Romance of the White Man's Burden—1865-1900. By THOMAS DIXON, JR. Doubleday, Page and Co., New York, 1902. pp. 465.

Although this is a very interesting novel, it is at the same time an historical study of the race question on which the author has spent twenty years of thought. Frederic Harrison recently said that this is the one great problem which shadows the future of America. It is a good story with a good moral.

Pestalozzi et l'Éducation Élémentaire, par GABRIEL COMPAYRÉ. Paul Delaplane, Paris. pp. 126.

We have here a very convenient handbook on Pestalozzi's life, his writings, and his influence. Rousseau and Spencer have already been treated in this series, and Macé, Horace Mann, Condorcet and Rollin are nearly ready, and fifteen more, ending with Tolstoi, are to follow.

The Grading of Schools, Including a Full Explanation of a Rational Plan of Grading, by WILLIAM J. SHEARER. The H. P. Smith Publishing Co., New York, 1899. pp. 220.

This is the third edition of a convenient and useful work by a writer who has a just sense of the importance of a better system. The preface states that it is the first book upon this phase of school organization. It is the product of ten years of careful study.